THE ART OF DISNEY MOANA

By Jessica Julius and Maggie Malone

Preface by John Lasseter

Foreword by Ron Clements and John Musker

In *Moana*, Walt Disney Animation Studios' new big-screen adventure, a spirited teenager, with help from demi-god Maui, sails out on a daring mission to prove herself a master wayfinder. This lushly illustrated book offers a behind-the-scenes view of the elaborate artistry involved in creating the film.

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CHRONICLE BOOKS
SAN FRANCISCO

Creating a Walt Disney Animation Studios feature film involves years of inspired collaboration and the highest levels of artistry. Before the final rendered images of *Moana* were seen on screens around the world, the following artists contributed their talents to the digital images included in this book:

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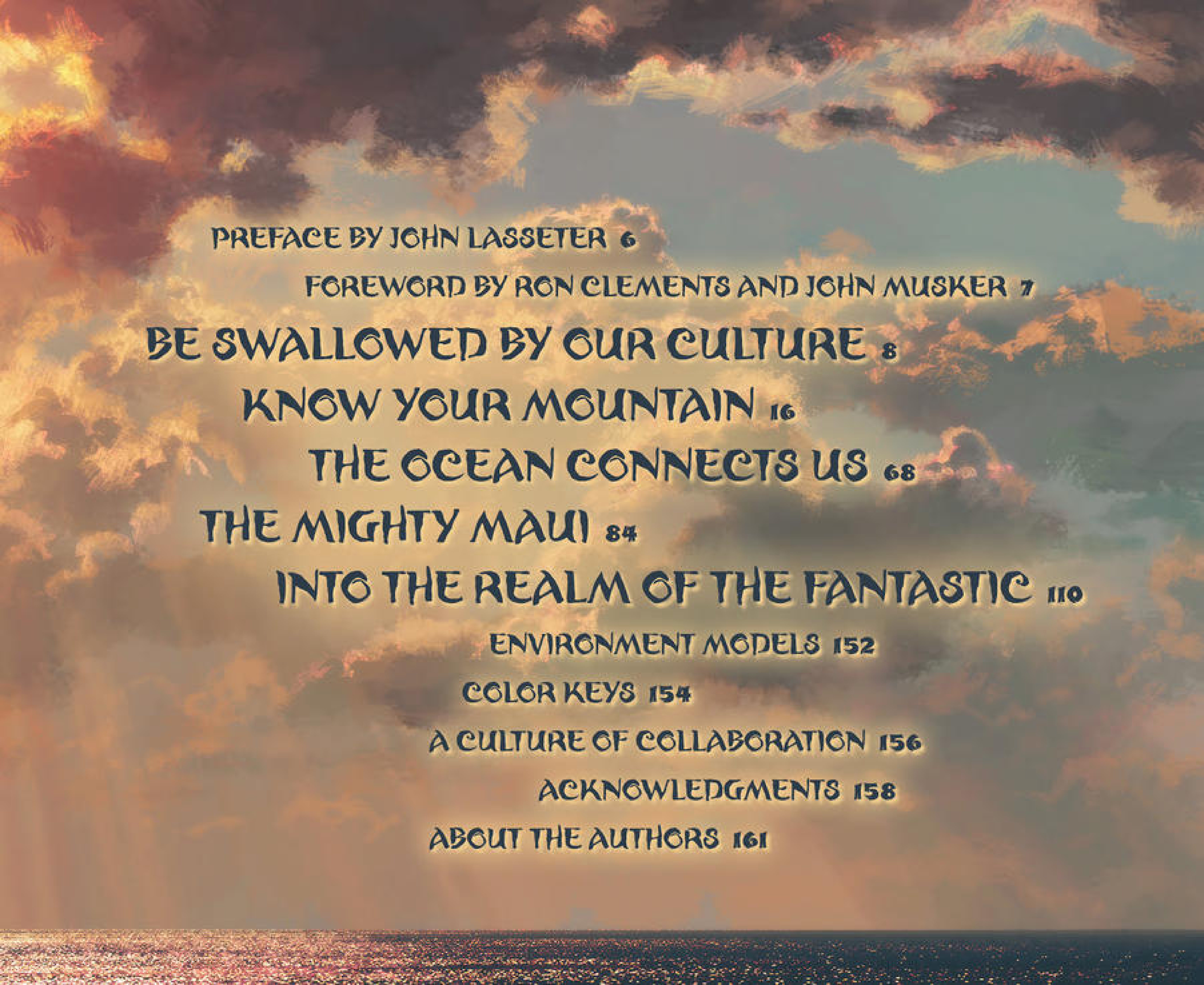

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PREFACE

I've always loved Disney's animated folktales. So when Ed Catmull and I were asked to take over the Walt Disney Animation Studios in 2006, we were eager to bring back that classic Disney folktale storytelling. But I was interested in looking beyond just European folktales. Every single corner of the earth has amazing myths and legends, and I was excited to find really great stories from all over the world that could be shared in animated films that would last for generations.

Ed and I were also happy to get to work with the incredibly talented Ron Clements and John Musker. With their combined sense of humor and storytelling ability, Ron and John have created some of the best Disney animated films of all time. So when they came up with the idea of doing a movie based on the legends of the Pacific Islands, I thought it could be absolutely amazing.

As Ron, John, and their team began to learn more about the Pacific Islands, it soon became clear that they would have to go there on a research trip. They got a lot of ribbing for this, of course—research in Tahiti, what a boondoggle! But it wasn't. The team met with community leaders and elders, historians, teachers, fishermen, and regular people from all over the South Pacific. They fell in love with the people they met and immersed themselves in their stories and cultures. When they shared with me the findings from their research, I had never seen a group of people who were more changed by their experience.

One of the things they discovered was the Pacific Islanders' belief that the ocean doesn't divide them, it unites them. Where many people see a vast ocean dotted with tiny spots of land, Pacific Islanders see their islands as being *connected* by the ocean, making up a single huge region called Oceania. Many of the people Ron and John met, including the incredible musician Opetaia Foa'i of Te Vaka, who helped create the music for *Moana*, explained that this belief stems from the deep pride Islanders have in their ancestors, who were the greatest navigators—wayfinders—that the earth has ever seen. That pride in their cultural tradition, that sense of connectedness to the ocean, and by the ocean, became central to the story. It's why the story's protagonist, and the film itself, is named *Moana*— the word for "ocean" in many Polynesian languages.

Ron and John have experimented with computer animated elements before, but *Moana* is their first film done fully in this medium. They love hand-drawn animation, but the subject matter in *Moana* lent itself so thoroughly to computer animation that they really opened their hearts and creativity to what it can do—the three-dimensional world, the lighting, the visuals, the color—and were amazed. It was perfect for this film.

The natural beauty of the Pacific Islands is unlike anywhere else in the world. The artists were so inspired by the richness of color and texture there, everything from the stunning landscapes to the incredible, unique designs in the islands' art and crafts. Creating a world for *Moana* that did justice to that pushed the limits of the whole studio, from story, art, and design all the way through every aspect of the technology. Depicting the water in the way the filmmakers envisioned, for example, took a tremendous amount of R&D and experimentation. But that sort of challenge is what keeps the studio on fire. Artists love being challenged, especially when the film has such a deep heart.

The filmmakers worked hard to try to capture the beauty, richness, and depth of the Pacific Islands in *Moana*'s world, characters, and music. But it is the spirit of the people they met, the love that they have for their community, their islands, and their cultures, that most deeply inspired them. We hope that people around the world will fall in love with the Pacific Islands as much as we did.

—John Lasseter

FOREWORD

Lightning danced on the sea as we walked along the water's edge. It was approaching sunset on the first day of our research trip in the Pacific Islands. John Lasseter, our executive producer, intrigued by our "pitch" of an animated film set in ancient Polynesia, was sure we would strongly benefit by a deeper dive into the culture. And so, here we were, both clad in our newly purchased *lavalava* (colorful sarongs) wrapped around our waists, as we approached Korova, a small village on the southern coast of Viti Levu, Fiji's largest island.

We were warmly greeted by the chief and elders as we sat with them in a *fale* (an open-air structure). They graciously accepted our *sevusevu* (a gift traditionally brought by visitors to their hosts). In this case it was the roots of a pepper tree, the primary ingredient for kava, a ceremonial drink we were privileged to share with them. We saw firsthand the importance of the extended family, as children and babies were looked after by many "aunties." We experienced the Korova community's generosity as they welcomed us into their wide family, saying, "We haven't much, but we share all that we have." And share they did, as we enjoyed not only the delicious dinner they'd prepared for us, but also their stories and moving songs, which they performed with both power and passion.

Days later, they took us sailing on a *camakau* (a traditional Pacific canoe powered only by the wind). As Angel, its Fijian captain, navigated the craft, he explained, "You must speak gently to this ocean." It is seen as a living, sentient being with feelings and moods that needs to be treated with great respect.

Thus began our voyage into this beautiful world. We heard narratives from people fiercely proud of their cultural legacy as the greatest navigators in human history. We learned how they found their way, without the aid of any instruments, but rather by their hard-earned knowledge of the stars and currents, across the vast seas to new islands. As we continued our travels to Samoa and Tahiti, we played with kids, heard stunning hymns and harmonies in churches, and were moved by a dance choreographed and performed in memory of victims of a recent tsunami, where the dancers were topped with red headdresses like frigate birds. We discovered the importance people placed on "knowing your mountain," namely the sum of all the people and their experiences that came before you. We heard the dramatic tale of Hinano, one of our cultural consultants from Mo'orea, and how her pregnant mother, while fishing in the lagoon, unexpectedly gave birth to her in the sea. We talked with linguists, archeologists, voyagers, and educators, whose expertise we continued to draw upon as the film took shape.

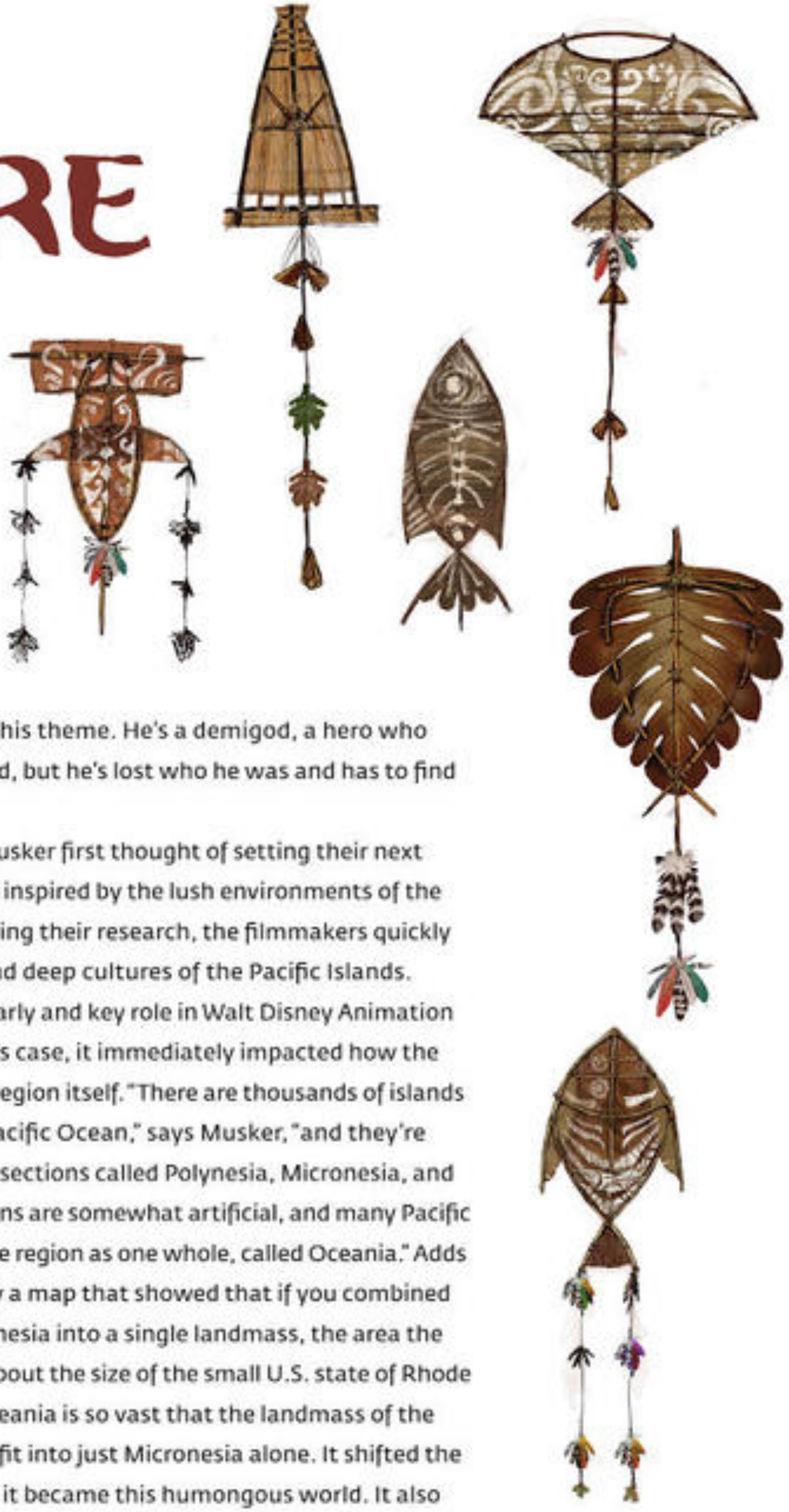
We returned to the States and the studio with a kaleidoscope of images jotted down in journals, captured in photos, and scrawled in sketchbooks. Not only did we have a far greater sense of the richness of these cultures, but we also carried with us something even more powerful: emotions that had deeply changed us. This was a world that was built on connections: between humanity and nature, land and sea, ancestors and descendants, families and villages. We felt we had been transformed by everything we encountered.

All of the sights, the sounds, the faces we saw, the conversations we were a part of were now our signposts, the stars in our heavens, there to guide us on the voyage of this film. When things got murky, when story concerns or details preoccupied us at times, we returned to the images, feelings, and ideas generated by this trip. They became our compass, the gift of the unforgettable people we met. They have inspired the wonderful drawings and paintings contained in this volume, drawn by the brilliant artists we sent to see and feel this beguiling universe firsthand. It is our hope that our voyage and theirs, and the film *Moana*, which this journey has shaped, will celebrate how breathtaking the world, cultures, and people of Oceania truly are.

—Ron Clements and John Musker

BE SWALLOWED BY OUR CULTURE

"For years we have been swallowed by your culture. One time, could you be swallowed by ours?"



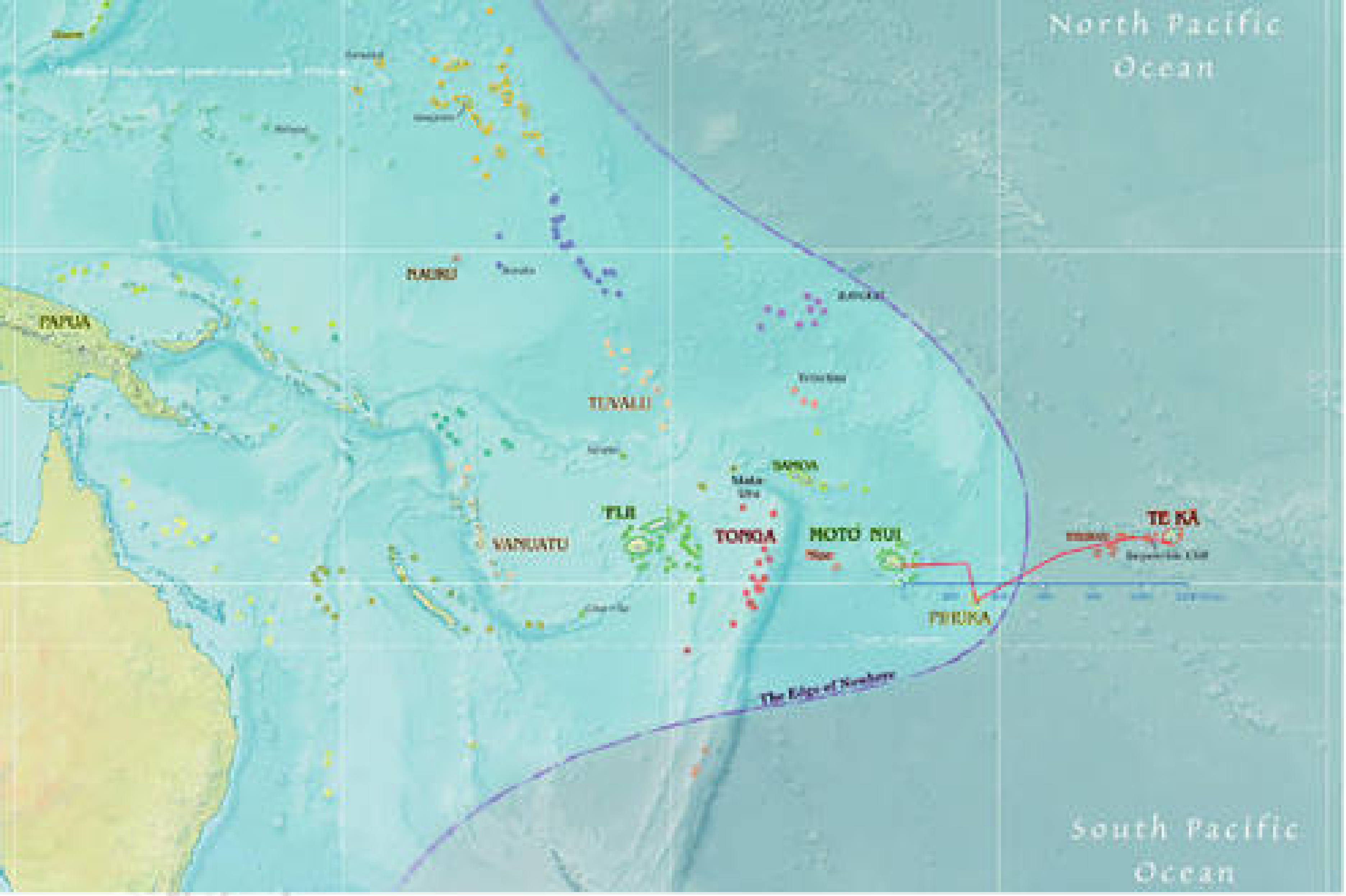
This was the challenge that Papa Mape, a Tahitian fisherman and elder, set before Ron Clements and John Musker, veteran directors of some of Walt Disney Animation's most beloved films (*The Little Mermaid*, *Aladdin*). It was early evening on the island of Mo'orea, in French Polynesia. Palm trees swayed in the breeze, and the stars of the southern hemisphere lit up the sky as Mape held out a rolled up piece of clean, white *tapa* (a paper-like cloth made from mulberry tree bark). "Together," said Mape, "we will fill this *tapa* with our story." Humbled and inspired, Clements and Musker accepted the elder's charge. Their goal during *Moana*'s long journey from idea to screen was to infuse every frame of the film with the respect and admiration they felt for the cultures of the Pacific Islands.

Moana is Walt Disney Animation's fifty-sixth feature film. It tells the story of Moana, a spirited teenage girl who sails out on a daring mission to prove herself a master wayfinder and fulfill her ancestors' unfinished quest. During her journey, she meets the demigod Maui, and together they traverse the open ocean. During their action-packed voyage, they encounter insurmountable challenges and frightening creatures, coming up against impossible odds. Says Musker, "Moana is trying to figure out who she is in this world. Other people are trying to define her in a certain way, but she wants to define her own identity. She feels a kinship with the ancient ancestors. They were great voyagers once, but now her people stay inside the reef. They have lost who they were, and Moana helps reconnect them to their true identity. Maui also echoes this theme. He's a demigod, a hero who at one time helped mankind, but he's lost who he was and has to find himself again."

When Clements and Musker first thought of setting their next film in Polynesia, they were inspired by the lush environments of the islands themselves. But during their research, the filmmakers quickly learned of the vast, rich, and deep cultures of the Pacific Islands. Research always plays an early and key role in Walt Disney Animation Studios' films, but in *Moana*'s case, it immediately impacted how the filmmakers thought of the region itself. "There are thousands of islands and island nations in the Pacific Ocean," says Musker, "and they're historically divided into subsections called Polynesia, Micronesia, and Melanesia. But those divisions are somewhat artificial, and many Pacific Islanders instead think of the region as one whole, called Oceania." Adds Clements, "Early on, we saw a map that showed that if you combined all the islands within Micronesia into a single landmass, the area the land covers would be only about the size of the small U.S. state of Rhode Island. But the region of Oceania is so vast that the landmass of the entire United States would fit into just Micronesia alone. It shifted the way we looked at this area; it became this humongous world. It also

Annette Marnat | digital

Mehrdad Isvandi | digital



Ian Gooding | digital

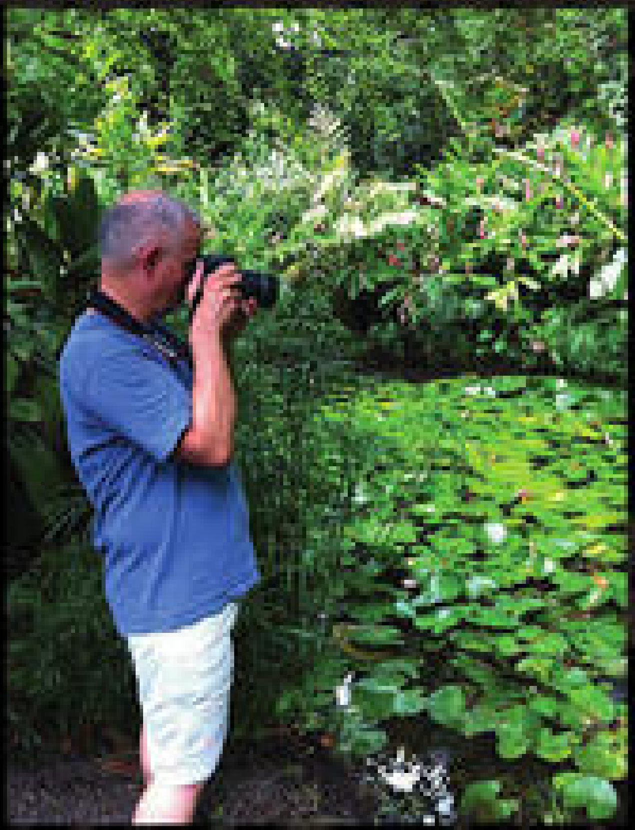
revealed a new concept for us—that the sea and the land are thought of as one and the same."

This idea was reinforced by a phrase the filmmakers encountered repeatedly when speaking with people throughout the islands: "The ocean unites us, it doesn't divide us." This connection to the ocean permeates Pacific culture and underscores the importance of navigation to Pacific Islanders. "They were the world's best navigators," says Musker. "For thousands of years they voyaged the Pacific Ocean, exploring and discovering islands. They didn't have maps or compasses; they used dead reckoning, a navigational technique whereby you know where you are on the open ocean only by knowing where you've been. Everyone we met found it a source of great pride to say, 'This is who we were, and are.' The fact that they were these incredible wayfinders influenced the story in a major way."

As the filmmakers learned more about the incredible voyaging feats of Pacific Islanders, they also discovered from experts in the region that, around three thousand years ago, the voyaging suddenly stopped for about one thousand years, before resuming again. No one really knows why either event occurred. Intrigued by this gap and the questions it raised, Musker and Clements felt it would be the perfect time period in which to set *Moana*. The film takes place at the very end of that gap, about two thousand years ago, a time before islands like Tahiti, New Zealand, or Hawaii were populated. It's set primarily in the central Pacific, drawing inspiration particularly from Samoa, Fiji, and Tonga. "No one knows exactly what things were like two thousand years ago," notes Clements, "particularly because ancient Oceanic cultures kept oral traditions and histories, and often the only information scholars have to go on comes from pottery remnants. So our goal was to be respectful and truthful, to base as much as possible on research, and if we deviated from that, we hope it was for a considered, story-related reason, not accidental."

Plunging into the research, the filmmakers read essays and books such as *Our Sea of Islands* by Epeli Hau'ofa, *The Wayfinders* by Wade Davis, and *The Lapita Peoples* by Patrick Vinton Kirch. They watched films and documentaries including *Nomads of the Wind* and *The Navigators: Pathfinders of the Pacific*. They spoke with experts in Pacific cultures and history and visited the Pacific Island Ethnic Art Museum in Long Beach, CA, the Pacific Ethnology collection at the American Museum of Natural History in New York, and the Fiji Museum in Suva, Fiji.

Finally, it was time to visit the islands themselves. "It sounds like a boondoggle—to go to Fiji for a research trip!—but it was a transformational experience for the film team," says executive producer John Lasseter. "When they came back and shared the findings from their research with me, I had never seen a group of people who were more changed. They fell in love with the people and the cultures." The team travelled to Fiji, Samoa, and Tahiti for their first visit and later went to New Zealand and Hawaii. They met with researchers and teachers in art, linguistics, archeology, and anthropology; experts in traditional dance and music; fishermen, navigators, elders, and families. They were invited to participate in kava ceremonies; witnessed *tapa* cloth being made; and even sat with a *tufuga ta tatau* (tattoo master) as he tattooed part of a traditional *tatau* (the traditional male tattoo of Samoa, often called a *pe'a*). "Being there, seeing a double-hulled canoe in person,



James Finch, Ian Gooding, Jessica Julius, Osnat Shurer | photos

ON-SITE SKETCHES FROM RESEARCH TRIPS

John Musker | ink

David Pimentel | ink

John Musker | ink

feeling the richness of the woven sails, eating taro cooked in an *umu* (an oven made from a hollow in the ground in which food is cooked on hot rocks), talking with the people. . . . To get a sense of the cultures, and the pride in their traditions, was essential and inspiring," says Musker.

"We placed a huge emphasis on authenticity," agrees producer Osnat Shurer (*Lifted*, *One Man Band*). "We're making a Disney animated film full of fantasy and imagination, not a documentary. But we tried to honor the people and be respectful of the Pacific cultures that inspired the movie." To help with this, the filmmakers assembled a team of advisors they called the Oceanic Story Trust, whom they relied on for feedback and guidance during *Moana*'s development and production. "We constantly asked, how do we stay authentic to what we've learned from the cultures, to the people who helped inspire the film? And how do we give back to the cultures in gratitude for their inspiration?" says Shurer.

"One of the key themes of the movie is identity—Moana finding her own identity, rediscovering her people's identity, and understanding the importance of passing on tradition from one generation to the next," says Clements. "This connection to the past—people looking back to where they came from, knowing that each person is part of a chain that came before her—is so important. It's encapsulated by a phrase we heard often, 'know your mountain.' Everywhere we went there was a sense of cultural identity that Pacific Islanders hope to preserve in modern times. We hope *Moana* will be a small part of helping to share these incredibly rich cultures with the world."

Research was also a key component of *Moana*'s visual development, and Musker and Clements knew exactly who they wanted to lead their artistic team: Ian Gooding, whom they had first worked with on *Aladdin*, and who was their production designer on *The Princess and the Frog*. "Ian's like a naturalist," says Musker. "On our research trip to the islands, he meticulously cataloged the flora and fauna he saw, and talked with experts to learn what was native and would have been there thousands of years ago. He came back incredibly inspired and full of ideas that informed a lot of artistic choices." Adds Shurer, "Gooding grew up in Jamaica and has a sensibility and respect for island life. He's also a sailor, so he brought an understanding of sailing to the film that few of us had."

Bill Schwab (*Frozen*, *Wreck-It Ralph*) and Andy Harkness (*Get a Horse!*, *Prep & Landing*) came onboard as art director of characters and art director of environment, respectively. "Bill has an innate sense of pleasing proportions, shape divisions, and contrast. Both his human and animal characters are so expressive," says Musker. "And Andy's pieces have a beautifully rendered yet graphic quality that we love. He discovered how to take the real world and put it through a filter that makes it specific for this movie."

Filmmakers often have a style in mind that they use as a jumping off point to determine the overall visual look of a film. But, says Gooding, "*Moana* didn't have that. Instead of imposing a predetermined style on the part of the world this story is set in, we let the research wash over us for a while and came up with something that was shaped by the islands."

"James Finch, a visual development artist traveling with us, observed that there is a unique sculptural quality there in the landscapes," says Musker. Gooding recalls, "I didn't know how to best represent that. I tried several things but it wasn't working out well. Andy finally figured it out, with an understandable set of design rules."

Ian Gooding | photos

Mike Yamada | digital

Mike Yamada | digital

"The basic rules of the design style for *Moana*—using straight lines against curved ones, avoiding parallels, repeating shapes, allowing large areas with very little detail to be punctuated by smaller areas with lots of detail—evolved from what we noticed in nature," says Harkness. "We started by looking at the color and proportions and shape language inherent in the islands. The landscapes, the specific foliage patterns, and the people themselves inspired the overall look of the film—we stylized what was already there."

"The landscape is full of repetitive shapes, often made by lava that has dried and built up over time. It creates really rounded silhouettes, weathered by the wind and water and other elements that form this land," continues Harkness. "It reminded me of painters from the Group of Seven, particularly A. J. Casson, Franklin Carmichael, and Lawren Harris. They use interesting combinations of straights and curves—everything is slightly rounded but very strong, with no perfect straight lines anywhere."

The foliage patterns the team observed in the islands added to this effect. "There's really no symmetry," Gooding explains. "Because of the wind, there are opposing outlines. One side of a mountain is windswept, which creates strong dramatic shapes with clean edges, while the leeward side is more tattered. So it looks wrong if it's depicted too neatly on both sides, as if someone trimmed it that way like a topiary."

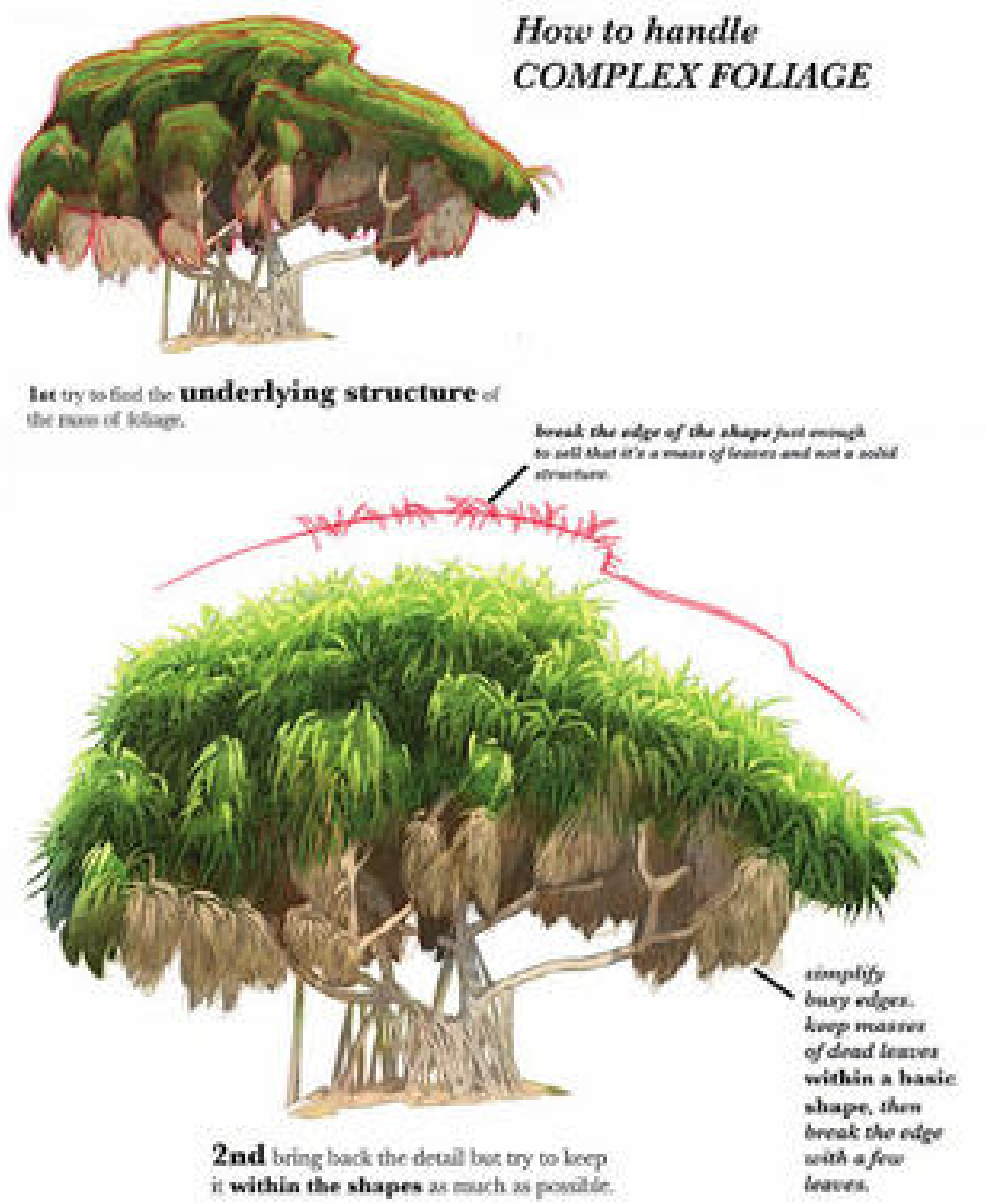
For the characters, "we really tried to let the research and the people who live in the islands be our guide in terms of style and design," says Schwab. "Their faces are beautiful, and very sculptural in a way, with strong, faceted planes." The team came back from their research trips with thousands of photos of people they met and saw. "I surrounded my office with those pictures of people, trying to discern what makes someone feel like they're from a specific island. We tried to imbue the characters in *Moana* with those details."

"We wanted to make our characters feel like Pacific Islanders, but also uniquely Disney in visual design," says Musker. "Meeting the people from our visits certainly helped shape how the characters evolved. And artists like Annette Marnat, Jin Kim, and Bill created some early drawings of Moana and Maui that influenced the overall stylization with a graphic and sculptural sensibility."

Every film faces challenges, and *Moana* was no exception. In fact, *Moana* is one of the most technically challenging films ever created at Walt Disney Animation Studios. "Both the ocean and lava monster are elements of nature that in *Moana* are also sentient characters, with personality and intention," says Clements. "On any other film, developing them alone would have been the big technical challenges." But that was just the beginning for *Moana*, explains Hank Driskill (*Big Hero 6*), *Moana*'s technical supervisor. "Maui's tattoos animate against his bare skin. He shapeshifts, and those transformations are very complex. Pacific Islanders typically have thick, wavy hair, which we wanted to recreate onscreen, so we had to develop a tool for that. Several characters are on a boat in the water for much of the film, or walking on sand. The list goes on and on."

Tackling these challenges required a tremendous amount of collaboration, particularly between the story, art, animation, and effects departments. "It was really important to have a strong dialogue and partnership between the creative and technical teams so we could achieve what everybody wanted artistically, within the balance of making it work technically," says visual effects supervisor Kyle Odermatt. Adds Gooding, "FX was trying to represent the reality of lava pouring out of a volcano and the amazing lagoons surrounding an island. And animation wanted to capture the subtleties of a character's performance. It was a constant back and forth to get it just right."

Moana is a movie unlike anything the filmmakers had undertaken before, and the care with which they approached every aspect of its creation shows onscreen. "*Moana* portrays Pacific Islanders' spectacular feats of voyaging, and making the movie itself was a kind of voyage—it had a launch, a destination, and adventures along the way," says Musker. "We hope this movie is a celebration of Pacific cultures," adds Clements. "That intention drove us to challenge ourselves. We wanted to get it right because it's important."


How to handle
COMPLEX FOLIAGE
1st try to find the underlying structure of the mass of foliage.
break the edge of the shape just enough to sell that it's a mass of leaves and not a solid structure.
2nd bring back the detail but try to keep it within the shapes as much as possible.
simplify busy edges. keep masses of dead leaves within a basic shape, then break the edge with a few leaves.

Andy Harkness | digital

Kevin Nelson | digital

KNOW YOUR MOUNTAIN

We heard the phrase 'know your mountain' many times while in the islands and we took it to heart," says director Ron Clements. "It means that you have to know where you come from, to recognize that everything and everyone that came before you is part of who you are today." That philosophy inspired the filmmakers, who hoped to do justice to the rich scope of Pacific cultures. It also underscored the importance of the research they did in an effort to build a foundation of authenticity for *Moana*. As director John Musker notes, "There's a vast mountain behind this movie."

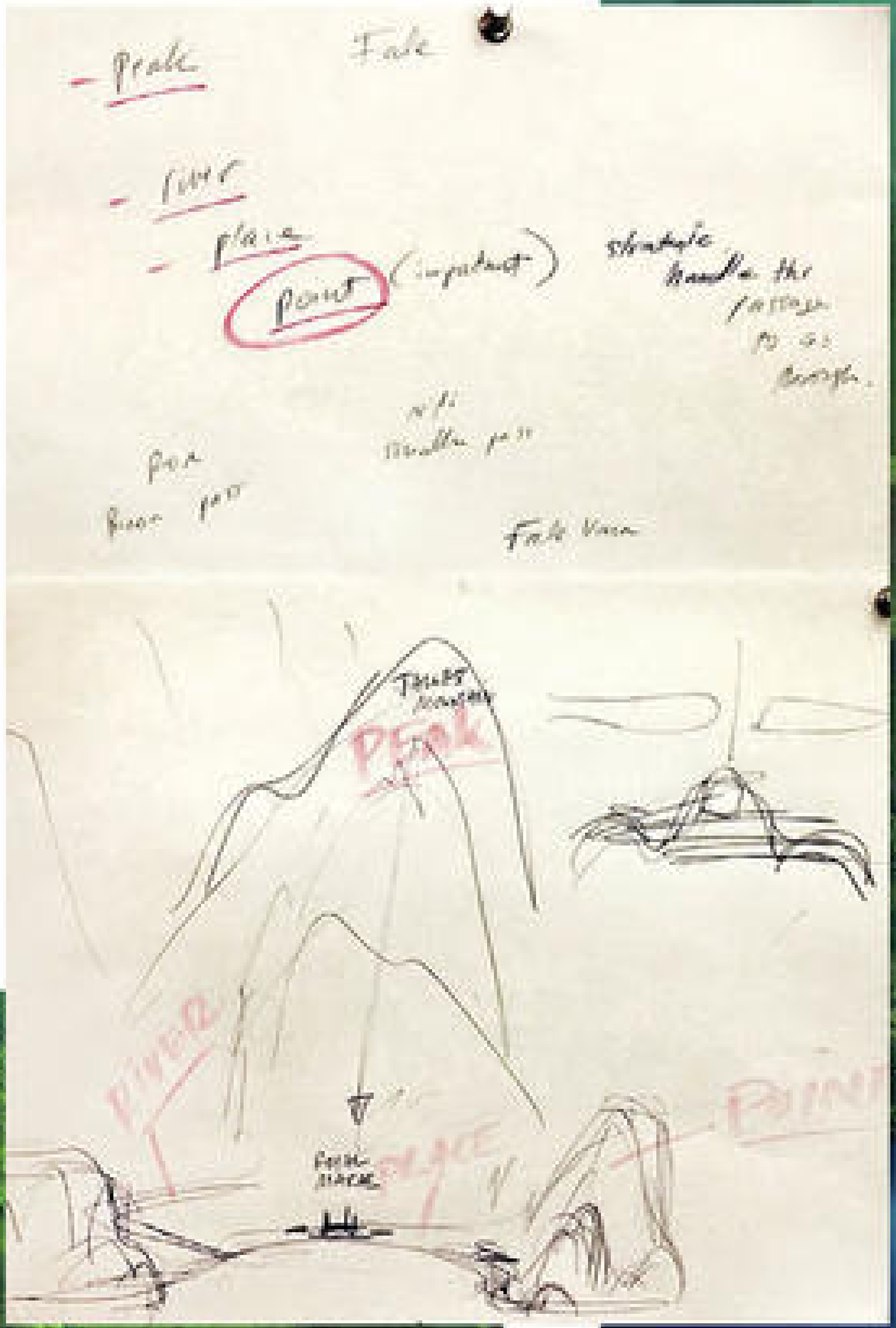
The visual development of the animated world of *Moana* began with the team literally learning the mountains. "The Pacific Islands are relatively young," says production designer Ian Gooding, "only between two and four million years old, and they were formed by volcanoes rising from the sea floor. So they are made mainly of basalt, basically black lava rock. Once the volcanic activity stops, the island eventually begins to slowly erode away, which creates really amazing shapes." Andy Harkness, art director of environments, was struck by these shapes. "The parts closest to the water are the original slopes of the volcano, and if you follow that [imaginary] line up, you can get a sense of how tall an island once was. We saw the geology in a new way, which influenced how we designed the various islands for *Moana*. They're not simply beautiful but generic mountains of dirt. They're based on how each island would have really eroded."

Several islands appear in *Moana* and the filmmakers wanted each one to have a distinct silhouette. To explore how these landmasses would look onscreen, Harkness initially sculpted each individual island in clay. "It was the most direct and efficient way to really understand an island, because each sculpt was a three-dimensional object we could turn around and look at from all angles. Even when the detail wasn't exactly right, it gave us a sense of the shadows, the valley structure, the proportions. It really helped define each island's design."

The team decided to push the islands' proportions, taking bold, simple designs, and stretching them vertically, to try to capture the feeling of being there. "In real life, when you're on certain islands, it seems like there's very little sky, just big grand mountains. But in photographs, everything flattens out and you lose the scale," says Harkness. Gooding adds, "It's impossible to photograph your emotional response to a thing. A photo can never do justice to something that astonishes you, like the color of a lagoon or the shape of a mountain. What we're trying to do with color, shape, everything in *Moana*'s visual design, is depict the emotional impact these magnificent real places have on you."

Andy Harkness | clay sculpt
Pages 16–17: **Ian Gooding** | digital

The Pacific Islands are known for their gloriously colorful and prodigious vegetation. But many of the plants there today are not native to the islands, and instead were imported over time. "In the film, we were trying to replicate something from an earlier time and be true to that," says Harkness, so the filmmakers tried to depict only truly native plants as much as possible. "There are hundreds of thousands of species in the islands now, so it was actually very helpful to eliminate some," says Gooding. "However, we did make some departures, like including plumeria and using hibiscus in colors other than just yellow and orange, in order to get a wider range of hues." In the end, more than forty species of flora appear in *Moana*, from ironwood, casuarina, and coconut trees to tiare and hibiscus flowers.



Andy Harkness | ink

Kevin Nelson | digital

Andy Harkness | clay sculpt, digital paintover

MOTUNUI

Motunui, the fictional island in the movie where we first meet Moana, is a beautiful tropical island surrounded by a barrier reef. For a thousand years, generations of Moana's family have called Motunui home, ever since her ancestors stopped voyaging. But after sailing for hundreds of miles, why did they decide to settle Motunui? What made a particular spot on a particular island desirable enough to call home? "They looked for specific features in the geography," says Andy Harkness, art director of environments. "In addition to a fresh water supply and protection from bad weather, they sought a pass for access to the open ocean and a place of fertile level land for farming. A point of land and a mountain peak, which were common features of most islands, were also chosen as landmarks for navigation to and from the site. Ideally, those elements would line up, and they might circle an island for a while before deciding on the right spot."

These elements were incorporated into Motunui's design. "Water flowing downslope erodes the land into a huge valley, creating a 'place' in which to build a village," explains production designer Ian Gooding. "This freshwater river continues to flow into the sea, eating away at the coral to create a gap in the reef, creating the 'pass' through which they could sail into and out of the lagoon." Usually the village was situated on a bay, which was safe from weather and easily defended, but had as grand an entrance as possible—a 'point' of land at the edge of the inlet with a particularly interesting shape or view. "This helped show that a wise and powerful chief lived there," says Harkness.

Once the voyagers found the right spot, Harkness continues, "the most important thing was to align the royal *marae* (a sacred place used for social and religious purposes) with the point and the peak." Demarking the space for the chief's residence came next, followed by defining a piece of land that served as the boundary into the communal lands. The rest of the village was laid out beyond that, broken into distinct segments, each with its own family, leader, and *marae*.

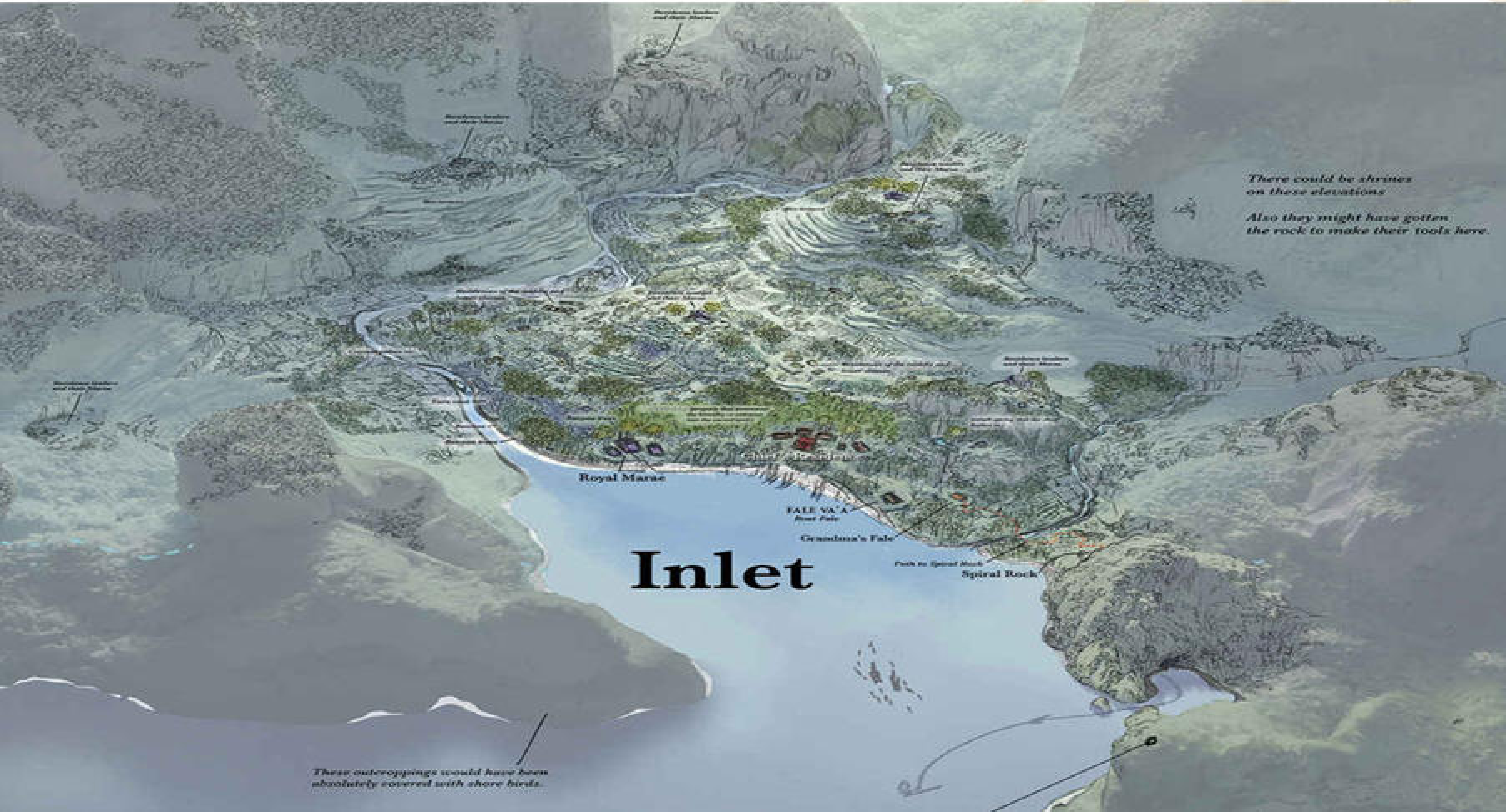
Agriculture also played a role in how the village was laid out. "Ancient Pacific Islanders were incredibly adept at land management, creating level terraces on slopes for residences and growing food," says Gooding. According to experts, they planted crops and fruit trees where they would grow best, with taro and bananas in low wet areas

Kevin Nelson | digital

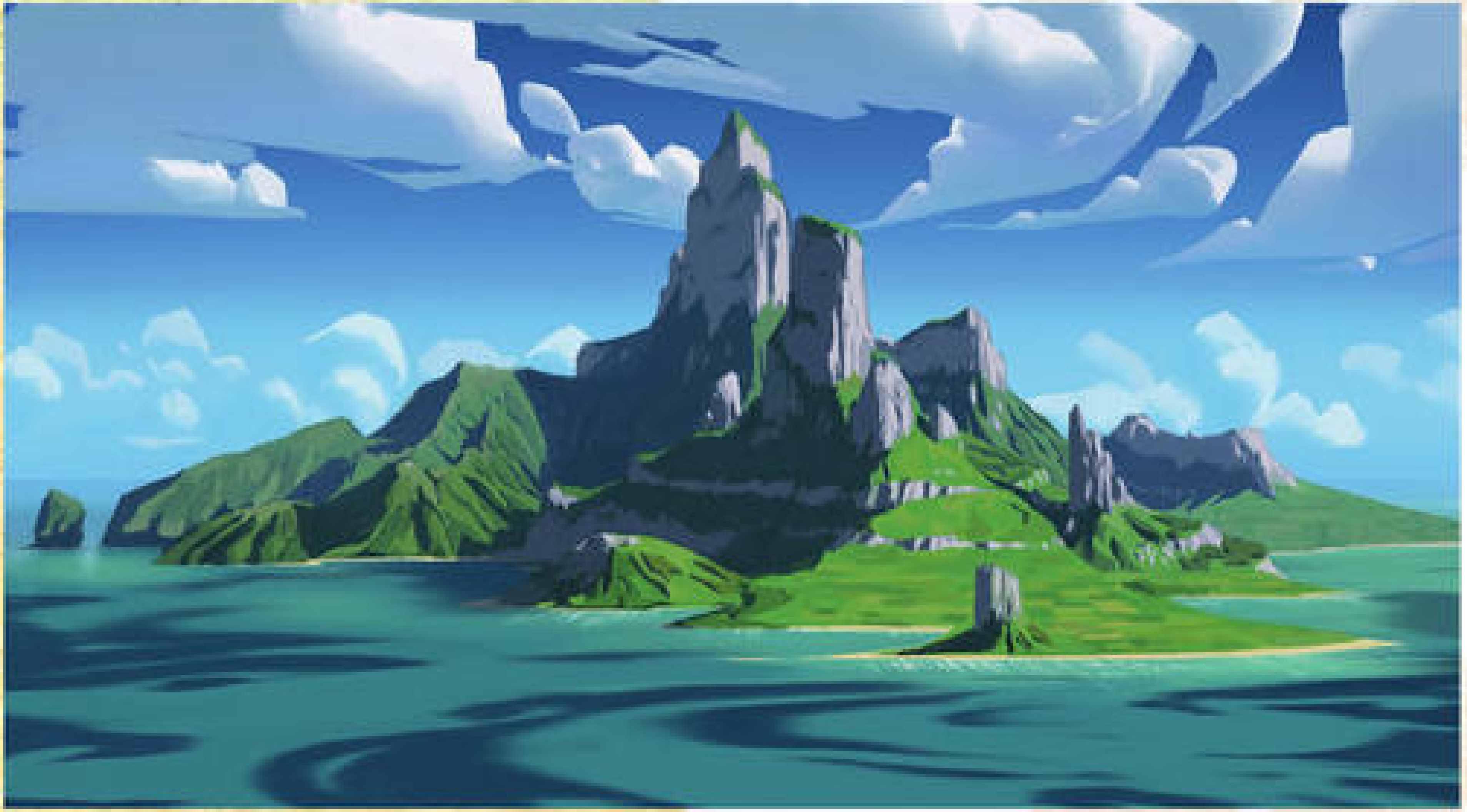
next to the river, plantains and manioc upslope. Breadfruit trees and other fruit trees were often grown around the homes for shade and along boundaries. They rested fields between seasons and fertilized gardens with plant matter and fish scraps.

The inhabitants of Motunui live and work in *fales*, open-air structures with thatched roofs. "Their design was inspired by what we saw in Fiji, Tahiti, and particularly Samoa, where the *fales* tend to be more oval in shape," says Gooding. *Fales* are built with various types of wood, often on top of a stone platform. No nails or screws are used, only rope made from braided coconut fiber, called *sennit*. "Every family has its own way of tying *sennit*, sometimes using contrasting colors to create a design as they wrap it," says Gooding. The team consulted closely with its Oceanic Story Trust to understand the protocol for a village's organization. "We wanted to know where the cooking *fales* are, where the communal *fale* would be, where the chief's family lives in relation to everything else," says Harkness. "The only thing that would have been better is if we could have taken a research trip back in time."

Andy Harkness | digital


There could be shrines on these elevations
Also they might have gotten the rock to make their tools here.
Royal Marae
Chief's Residence
FALE VA'A
Boat Fale
Grandma's Fale
Path to Spiral Rock
Spiral Rock
Inlet
These outcroppings would have been absolutely covered with shore birds.

Andy Harkness | digital



Ryan Lang | digital

When we translated the initial 2D design of Motunui into 3D specifications, we discovered that it would be twice as tall as Mount Everest, nearly leaving the atmosphere! Even caricatured environments have limits, so we shrank it down a bit, but it's still taller than any island in the real world would be.
—Hank Driskill,
technical supervisor

Andy Harkness | digital

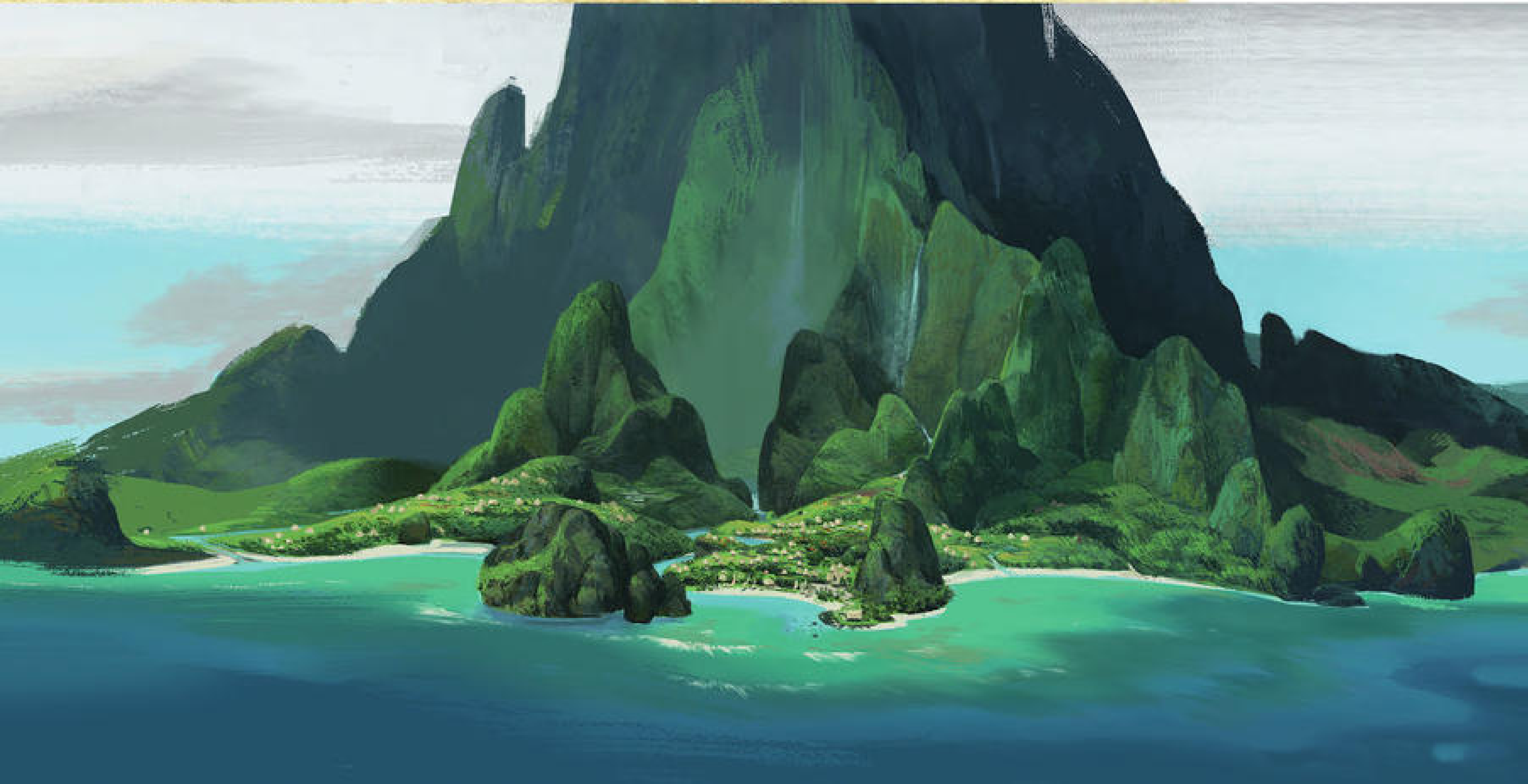
Ryan Lang | digital

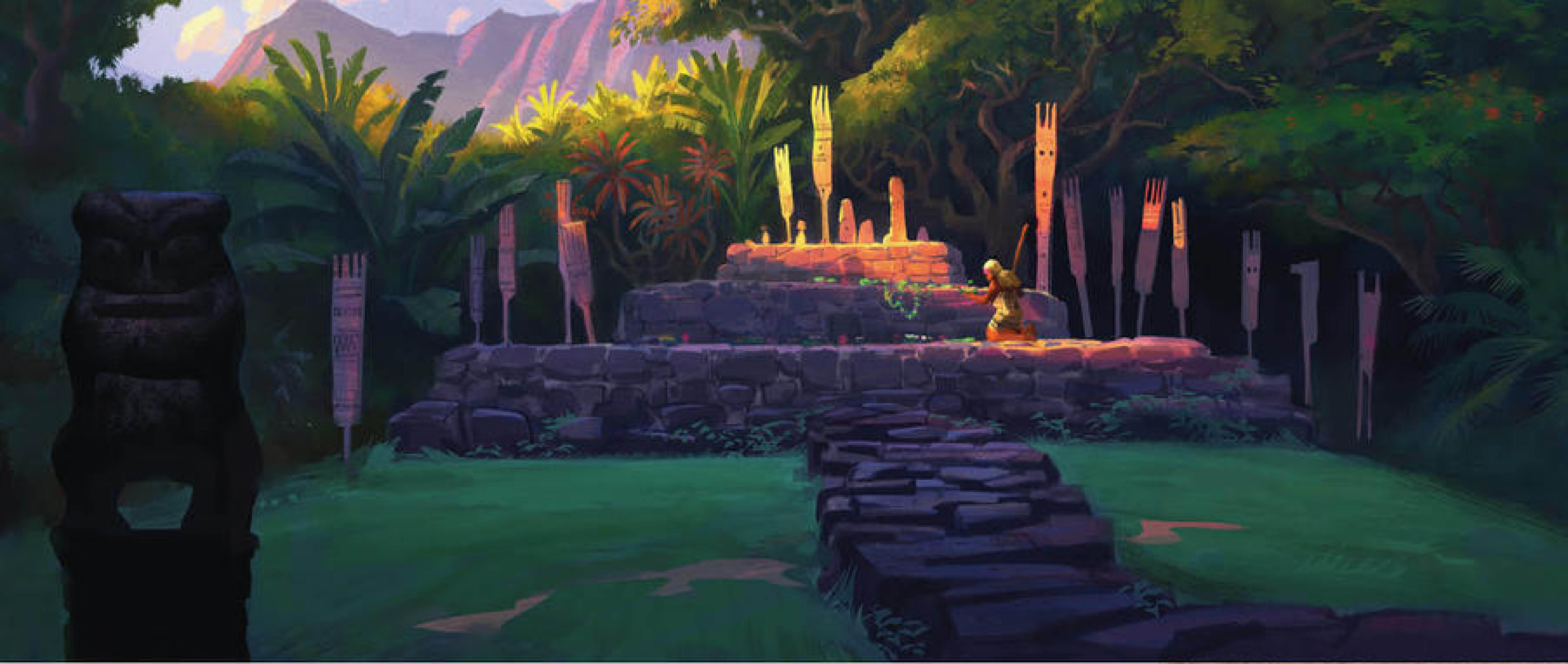
The mist generated by the waterfall on the mountain behind Motunui creates an almost false horizon. It gives the sense that there are things on this island you can't see from the village.

— Kevin Nelson,
visual development artist

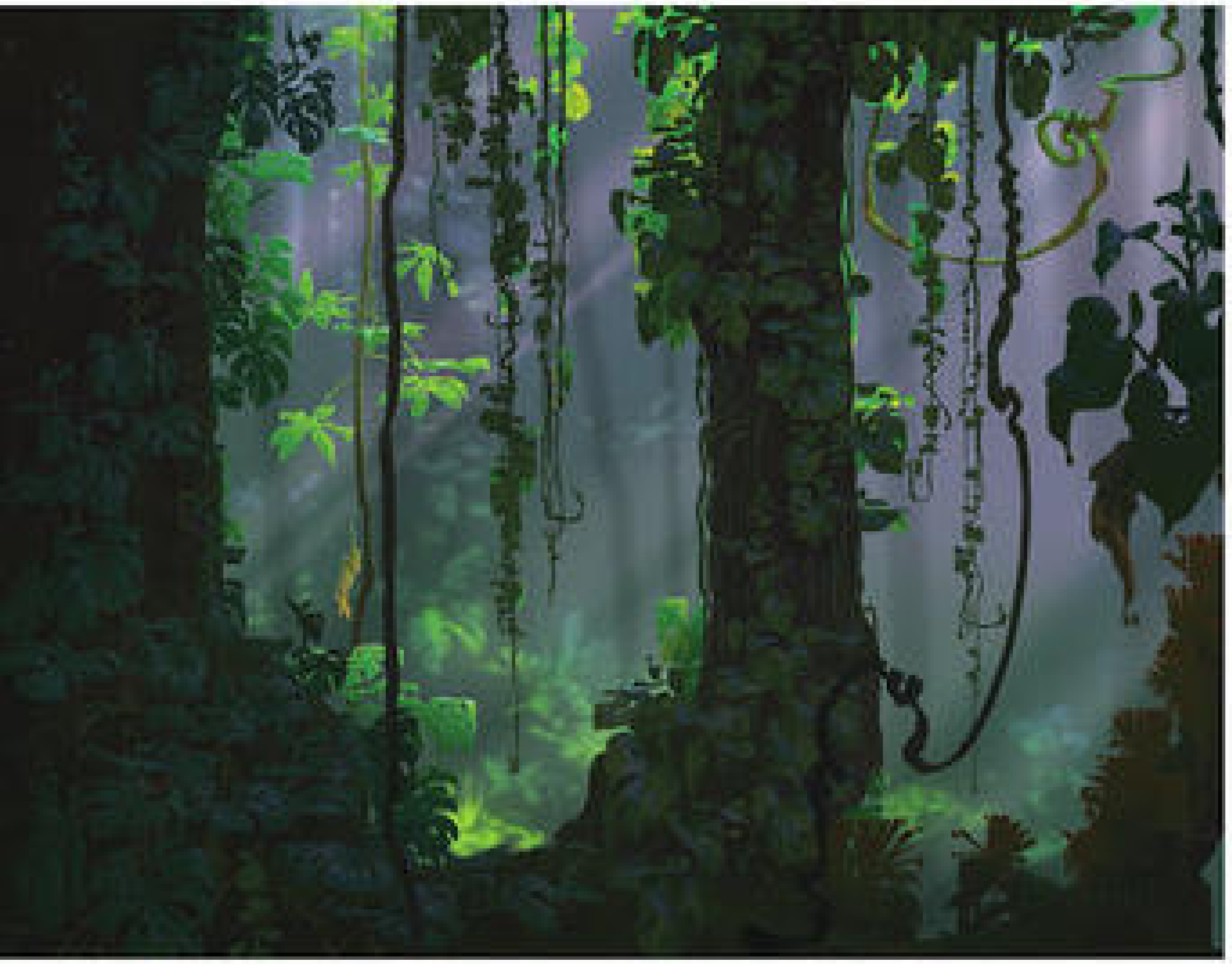
Nick Orsi | digital

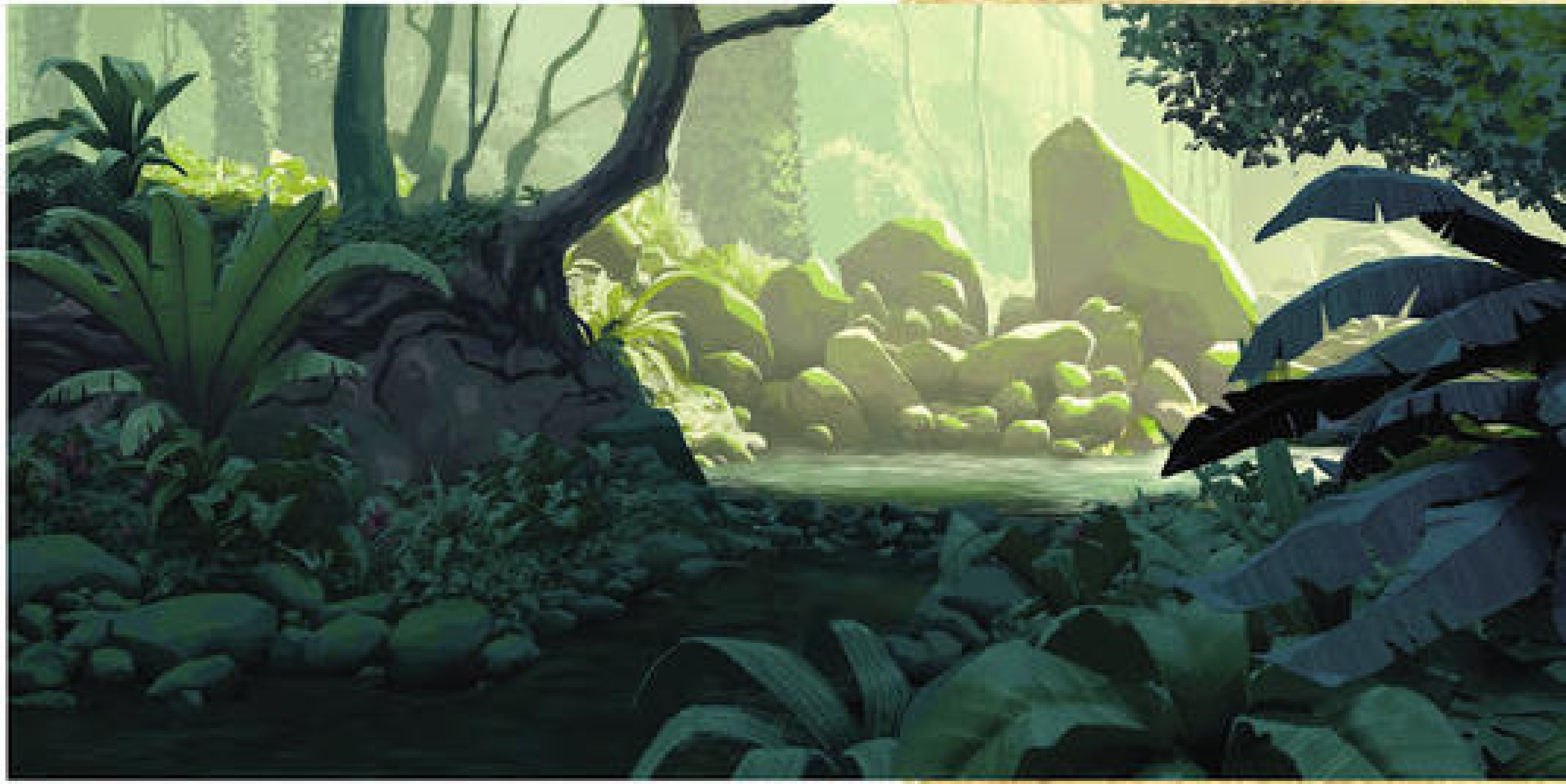
Kevin Nelson | digital





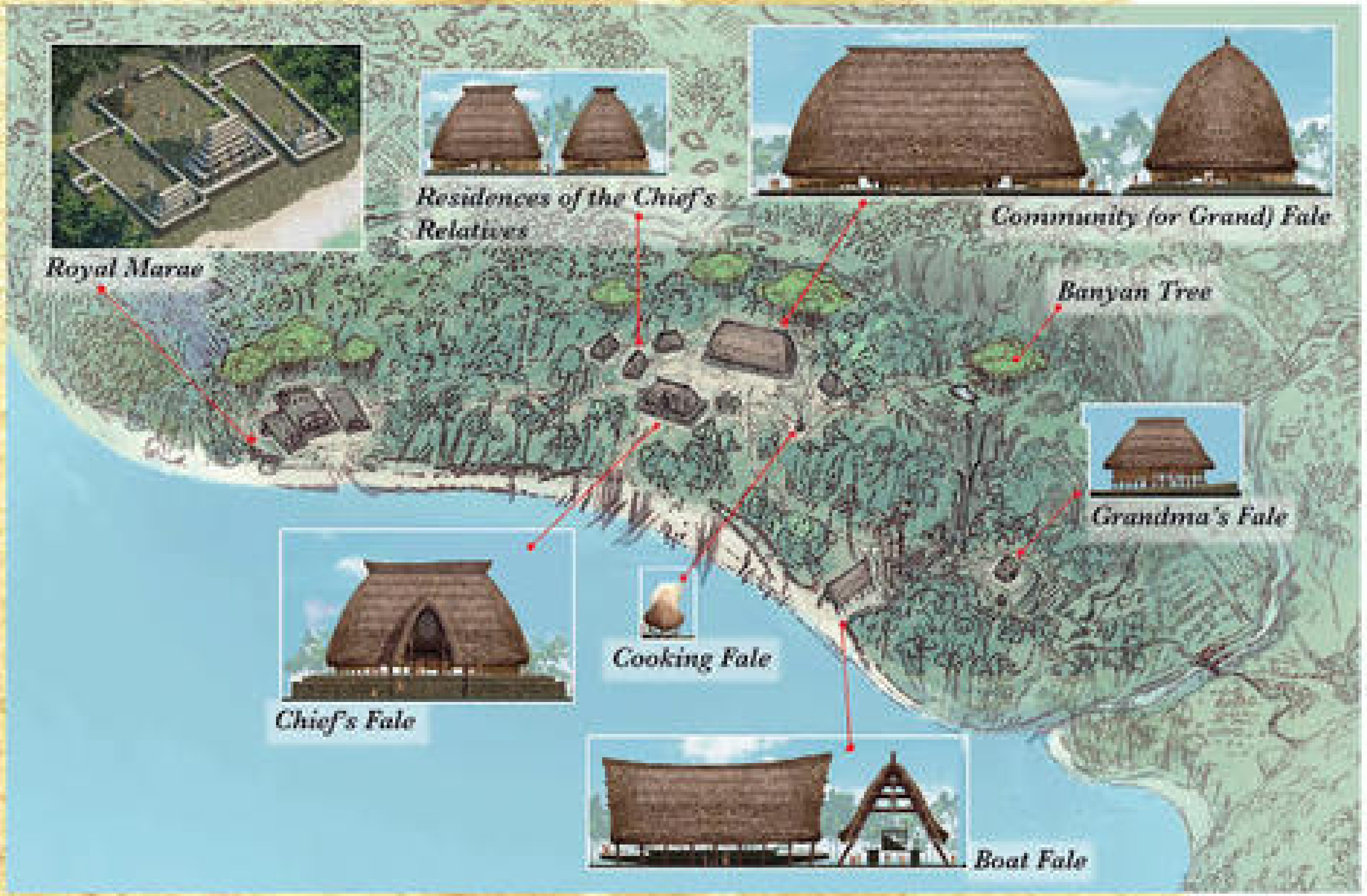
James Finch | digital





Ian Gooding | digital

Ryan Lang | digital

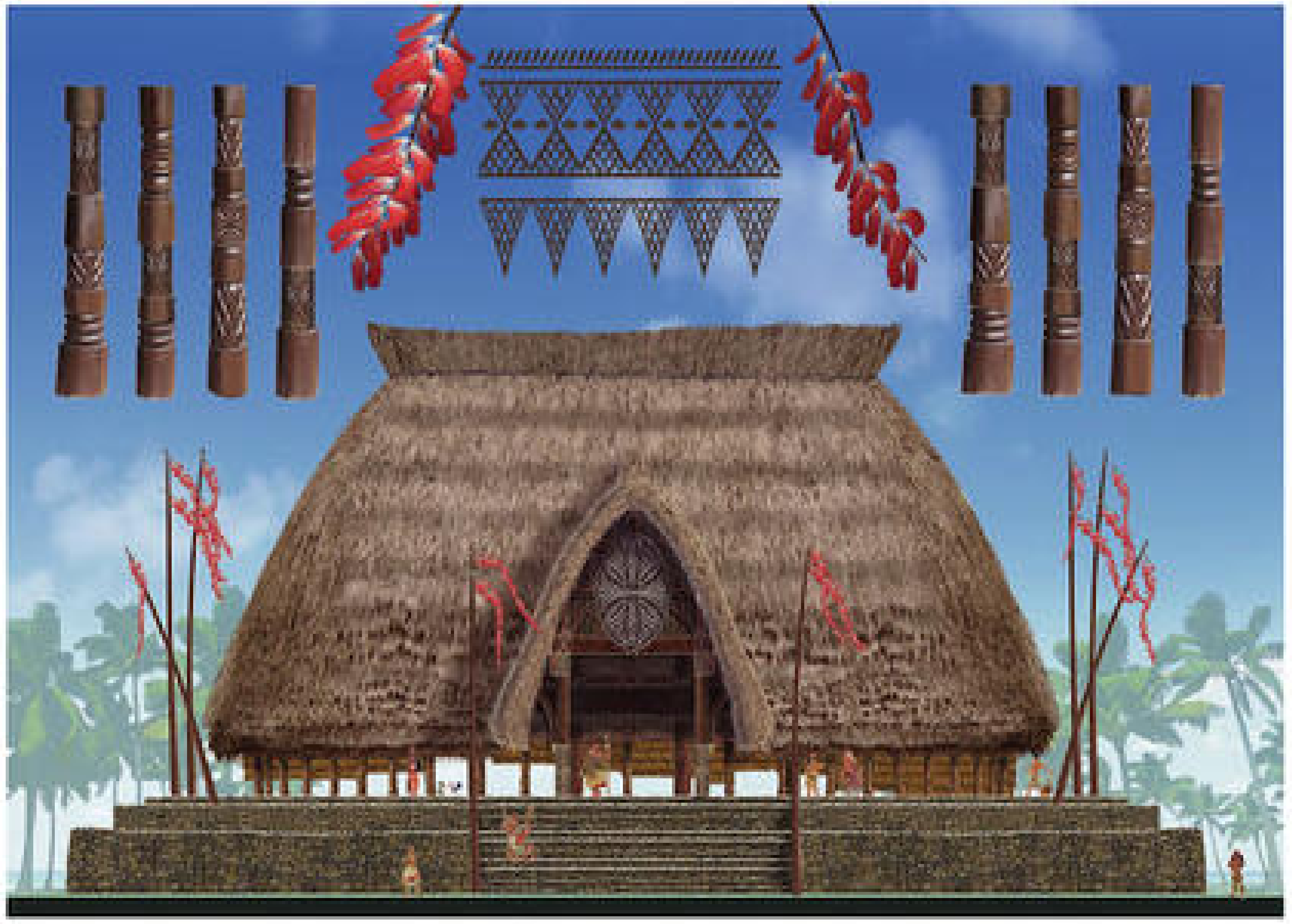


David Womersley, Andy Harkness | digital

David Womersley | digital

David Womersley | digital

David Womersley | digital



David Womersley | digital

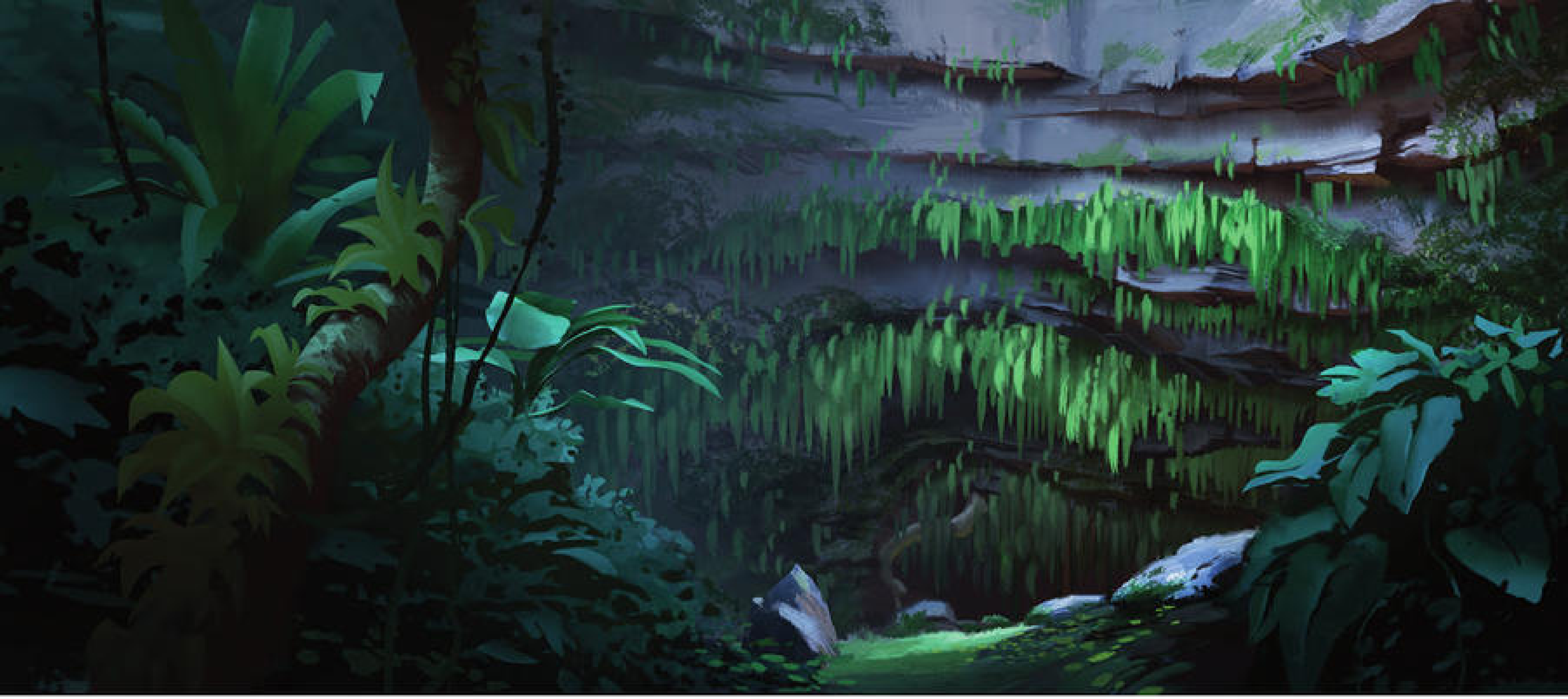
David Womersley | digital

Andy Harkness | digital

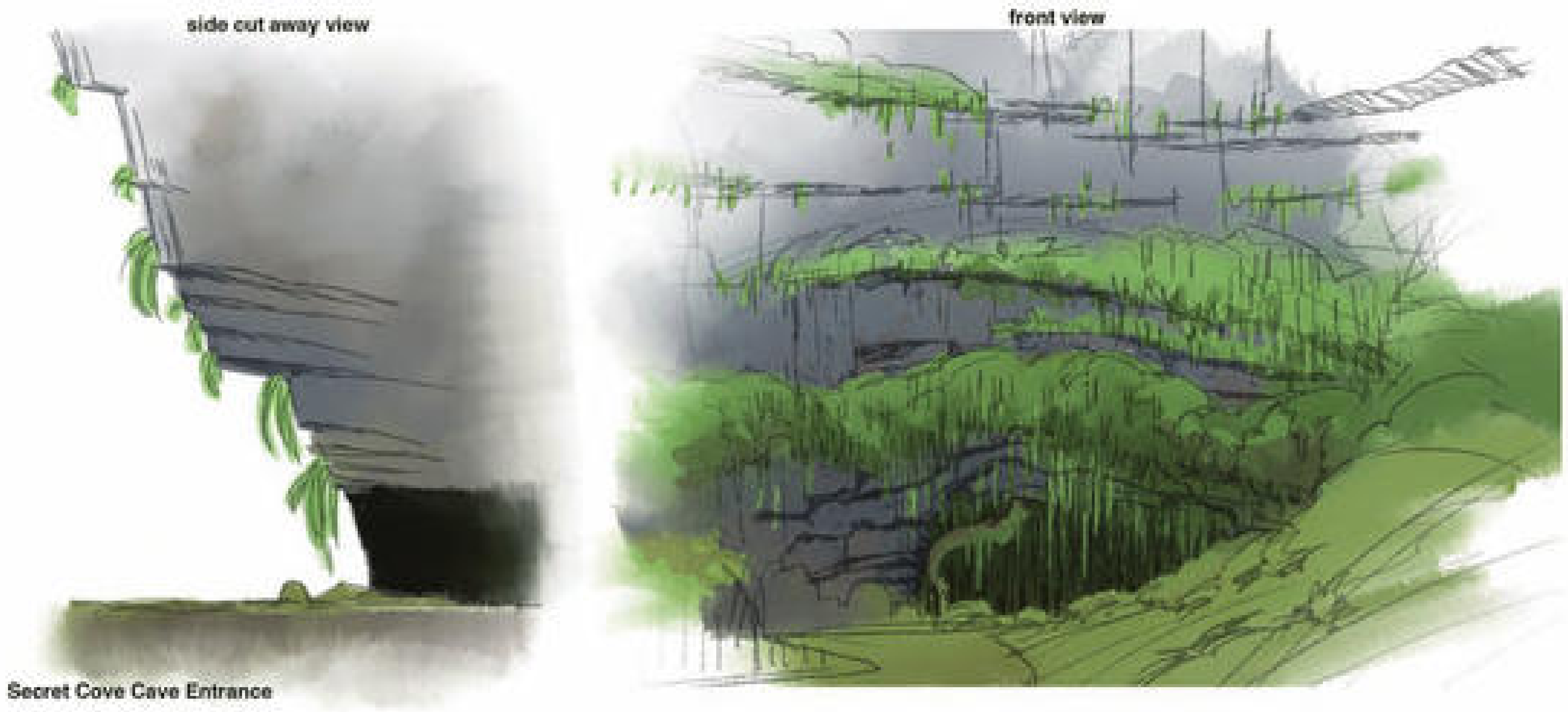
Chief Tui's *fale* is special. It has an A-frame door and a high foundation. Inspired by an old Marquesan etching depicting poles topped with plumes of *tapa* fabric, it has poles topped with highly prized red feathers, which were reserved for royalty.
— Ian Gooding, production designer

David Womersley | digital

Andy Harkness | digital



Leighton Hickman | digital



Leighton Hickman | digital

The Cavern of the Wayfinders is inside a lava tube. The ancestors placed the canoes on planks, which have washed away over the years, so now the boats rest on the black sand. There is a water source in the cave that's illuminated from below, and the glow casts shadows, creating a mysterious dark room.

— Andy Harkness,
art director of environments

Andy Harkness | digital

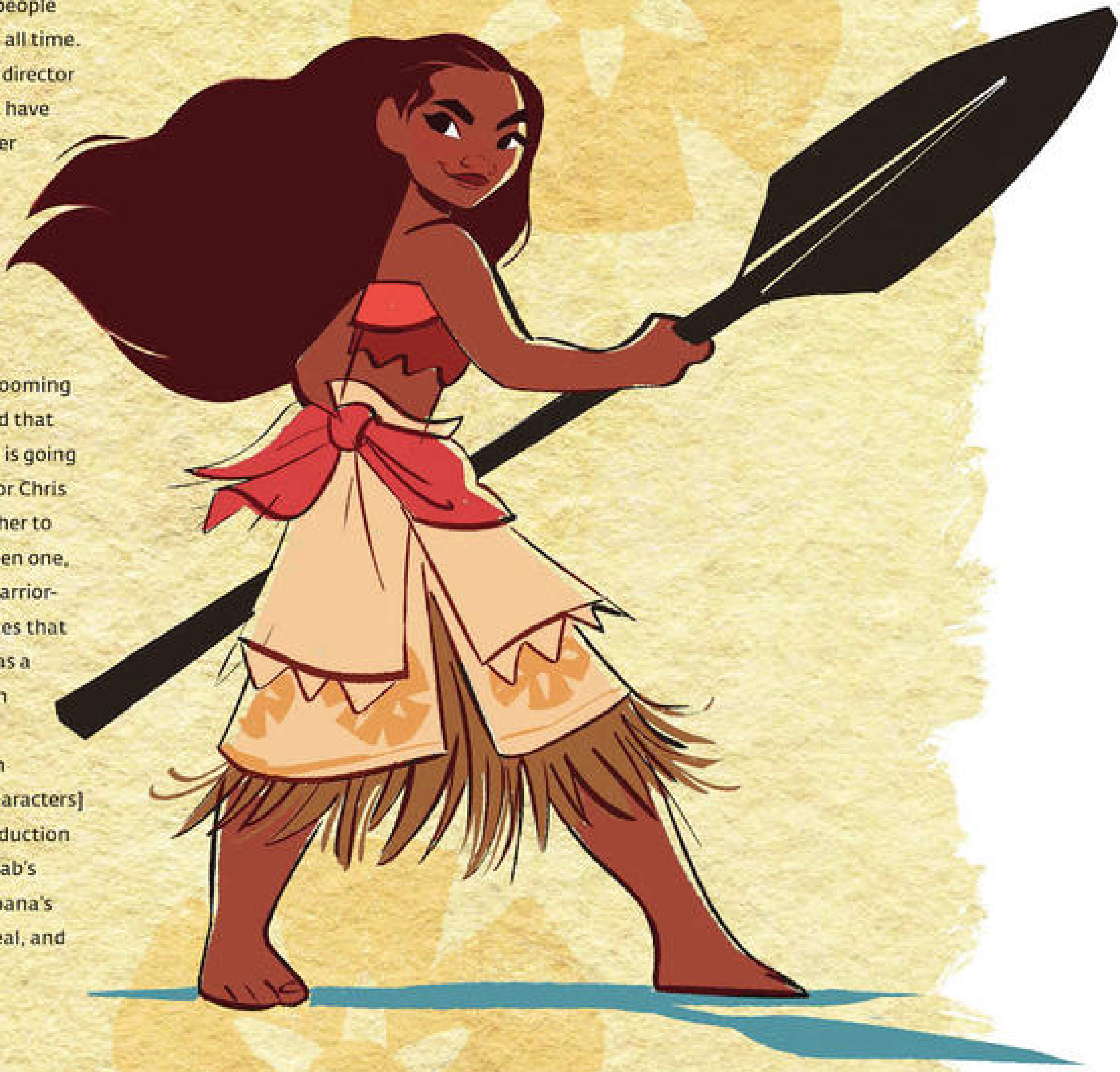
Ian Gooding | digital

MOANA

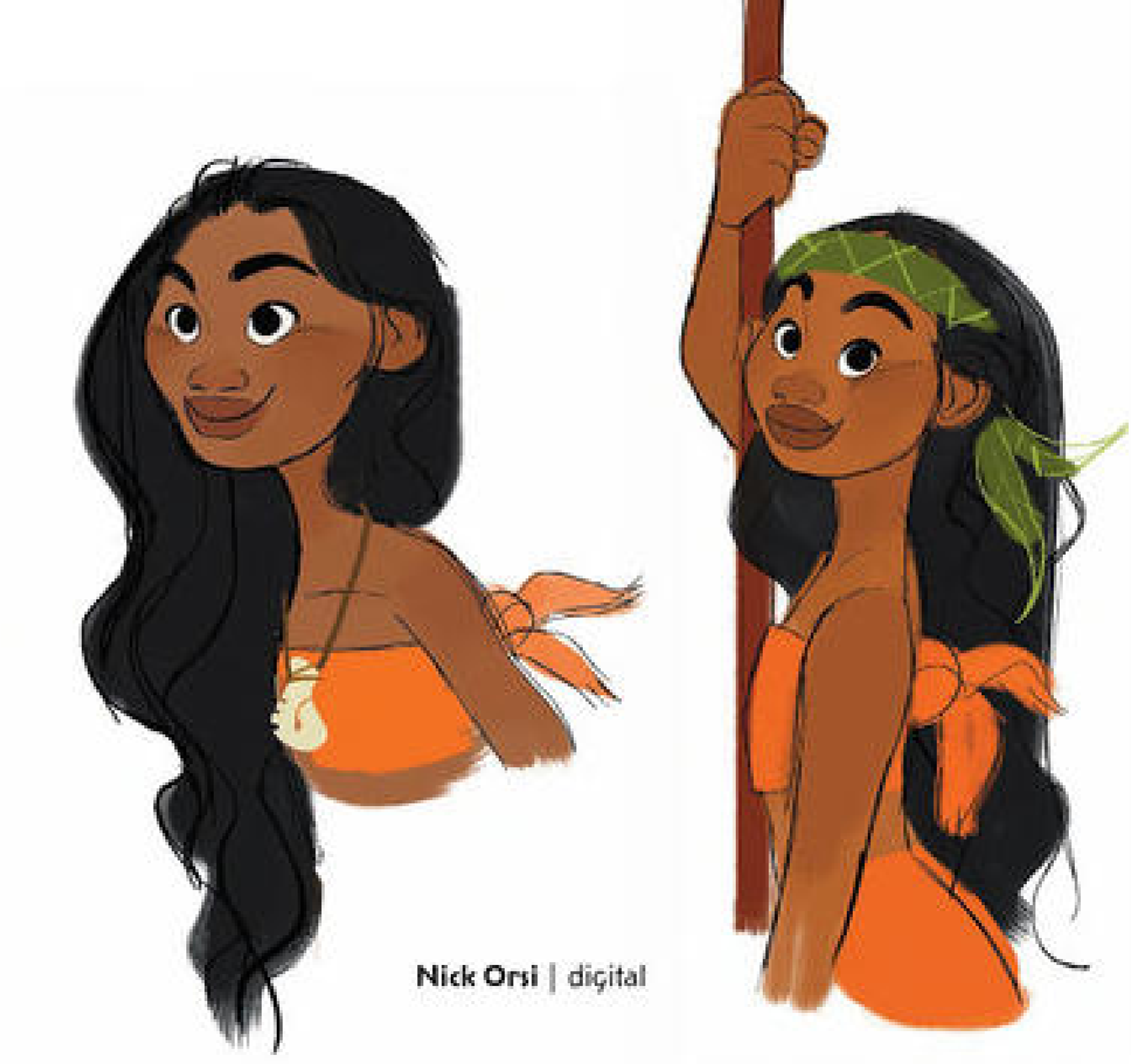
Moana is a sixteen-year-old girl who sets out to define her own identity in the world, and in the process helps her people remember who they are—the greatest voyagers of all time. "Moana is a fearless, tenacious, intelligent young woman," says director John Musker. "She yearns to be something that she doesn't yet have a name for, something that doesn't seem to be a possibility in her world." Co-director Don Hall elaborates. "Moana is called to the ocean, and she doesn't understand why she's the only oddball on her island who wants to be on the open seas, sailing." When Moana discovers through her grandmother, Gramma Tala, that she is connected to a long lineage of wayfinders, "it confirms something inside of her," says Hall.

Moana's father, Tui, is the chief of the village, and he's grooming her to be his successor. "She doesn't see herself in that role, and that creates a lot of inner conflict," says director Ron Clements. "She is going through what a lot of adolescents go through," adds co-director Chris Williams. "Others tell her who they want her to be. Dad wants her to be a traditional princess, Gramma Tala believes she is the chosen one, Maui says she should mask her compassion to become more warrior-like. Moana tries on these identities, but ultimately, she realizes that she needs to be herself." Hall agrees. "The compassion she had as a child will heal the rift with nature caused by Maui and reclaim their cultural identity."

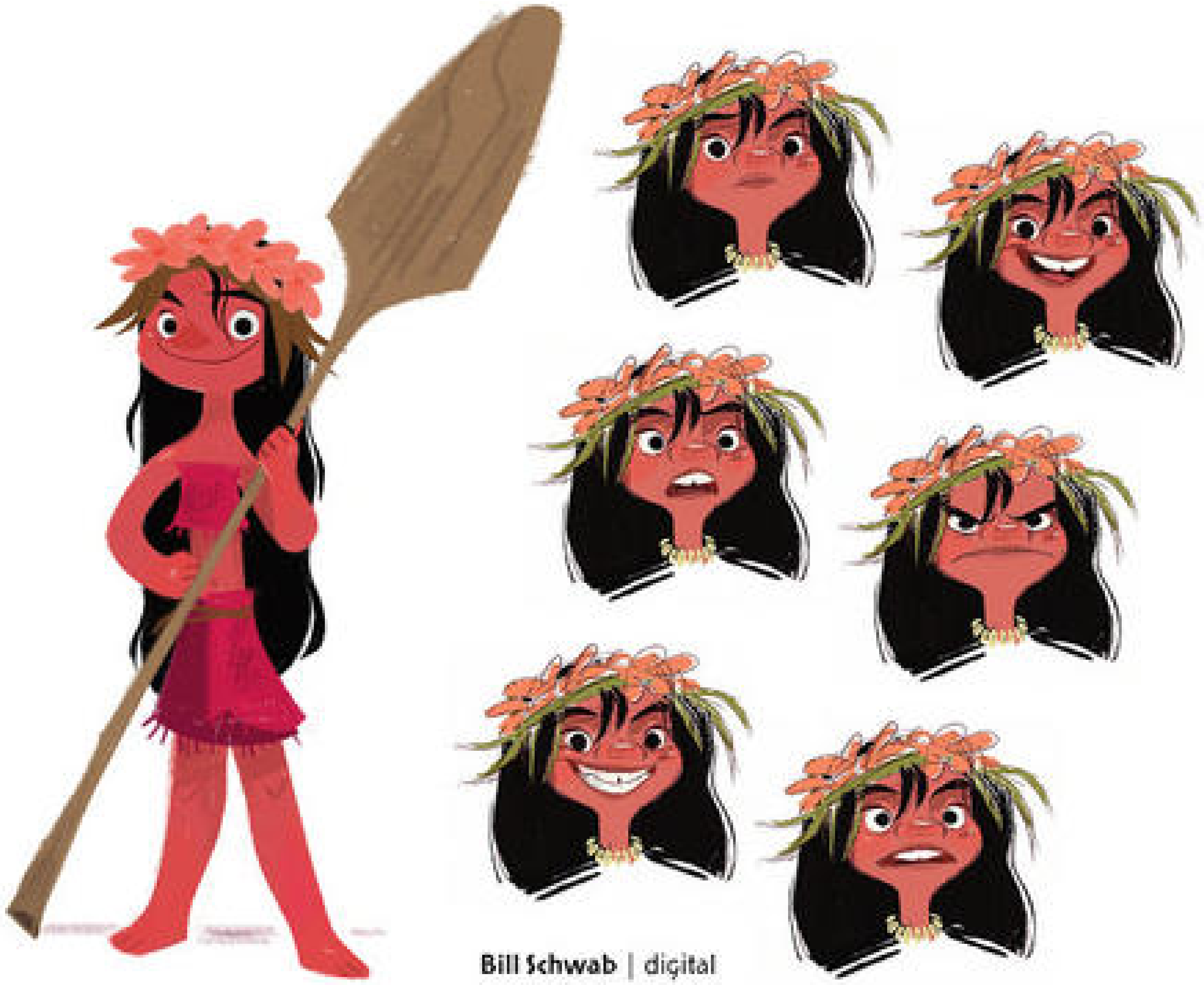
Designing Moana was a fun challenge. "Moana was drawn hundreds of different ways before Bill [Schwab, art director of characters] drew a girl that ended up being Moana," says Ian Gooding, production designer. Visual development artist Jin Kim translated Schwab's 2D designs for the 3D animators. "Jin's drawings captured Moana's moods and attitudes in a magical combination of design, appeal, and personality," says Clements.



Bill Schwab | digital



Nick Orsi | digital



Bill Schwab | digital

Producer Osnat Shurer notes that, "Moana has beautiful, waist-length curly-wavy hair and proportions reflective of real girls her age." The animators wanted Moana to be able to interact with her hair in the way a typical teenage girl would. "We'd watch Auli'i [Cravalho, the actress who voices Moana] in the recording booth, and she was constantly playing with her hair," says Hyrum Osmond, head of animation. So, says technical supervisor Hank Driskill, "We developed a program called Quicksilver that gave the artists control over the hair." Malcon Pierce, animation supervisor on the character of Moana, was thrilled. "We really wanted to use Moana's hair to showcase how she's feeling. Her hair can perform just as much as her face."

The team also wanted to push the anatomy of the film's characters. "Anatomy was on our minds from the beginning, since we have lots of characters not wearing much clothing," says Schwab. "We brought in a life drawing teacher to give the artists anatomy lessons." The collaboration between the art, modeling, and rigging departments contributed enormously to the end result. "We spent hours nailing down the anatomy to get believable characters," says Pierce. Adds Mack Kablan, animation supervisor on the character of Maui, "We looked at so much research and reference. There is a fine line between realistic and designed characters."

"Moana is an action hero," notes Schwab. "She's capable and fit." The team also tried to capture a facial structure that felt like a Pacific Islander's. "Moana has a beautiful, hexagonal face shape," says Gooding. "She has high cheekbones and a sculpted jawline. Her face reflects her inner strength."

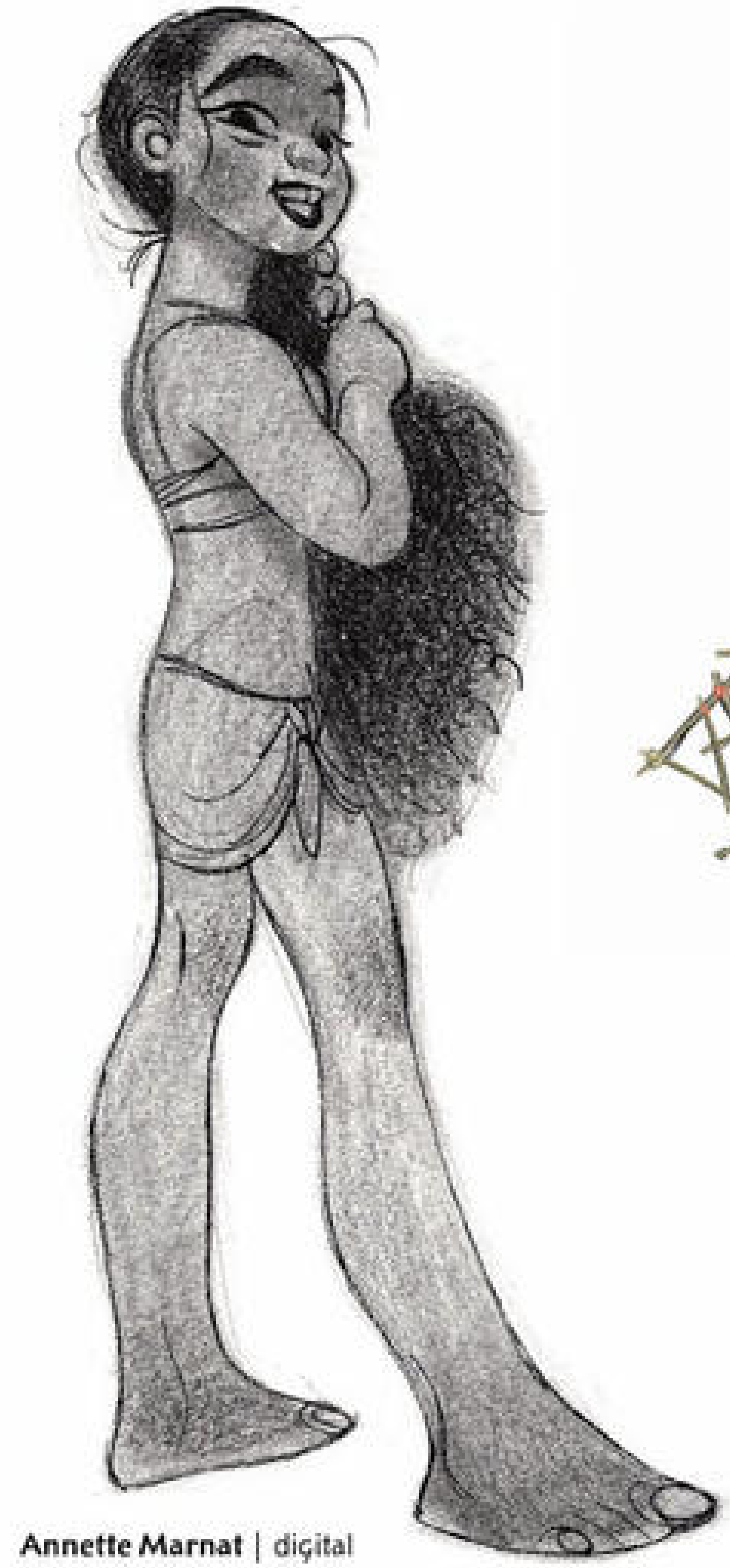
Moana's clothes lend important clues to her personality. Visual development artist Neysa Bové says, "Moana is a fearless Oceanic princess. We wanted to make that relatable to today's audiences and pay tribute to Pacific culture." Bové is particularly proud of Moana's traveling outfit. "It evolves over her journey. At first, it's more orange, made of just *tapa* and pandanus fabric. By the end, it's red—the color of royalty—to reflect the powerful woman she has become."

Manu Arenas | graphite, ink

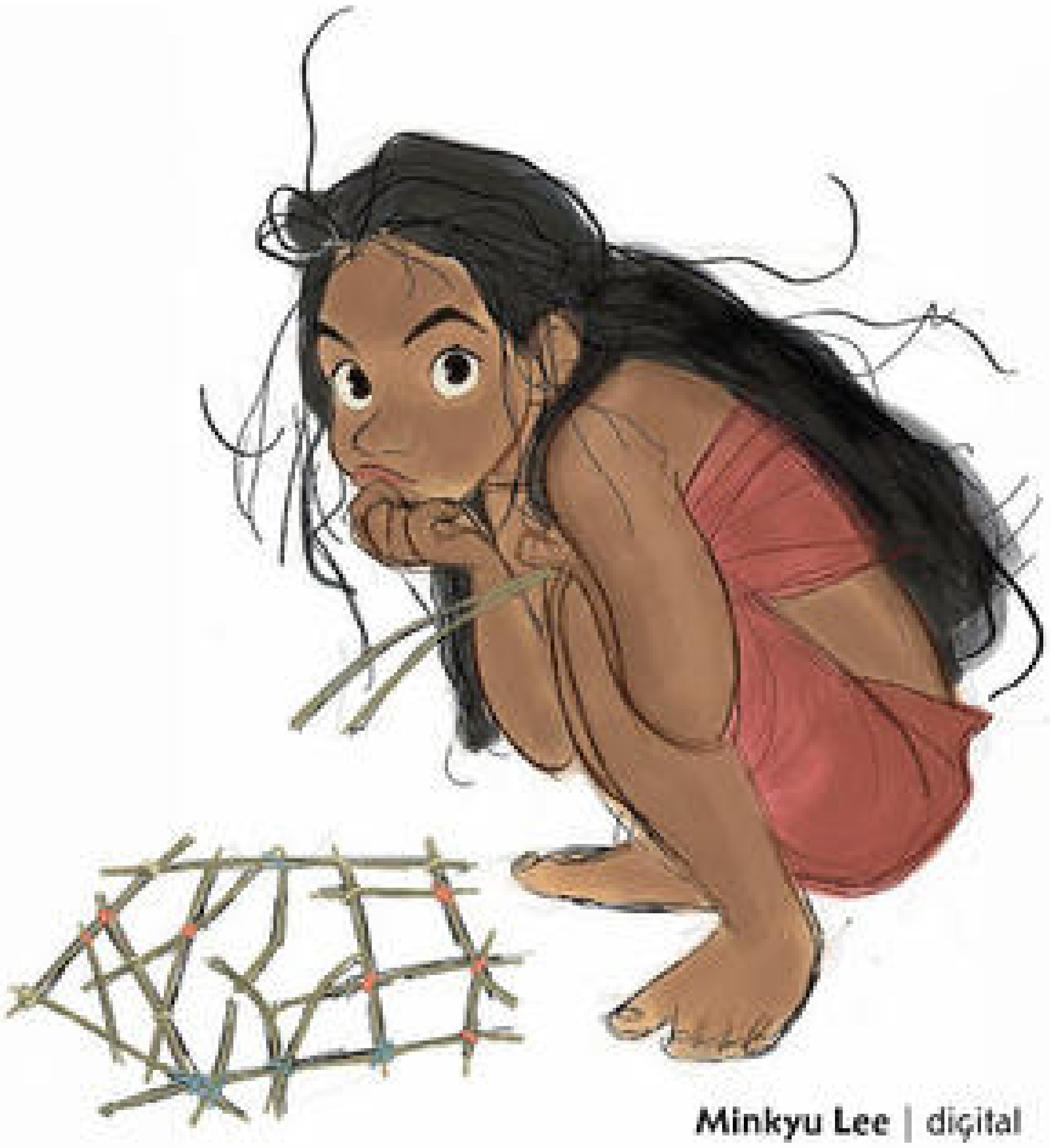
Annette Marnat | graphite

Annette Marnat | graphite

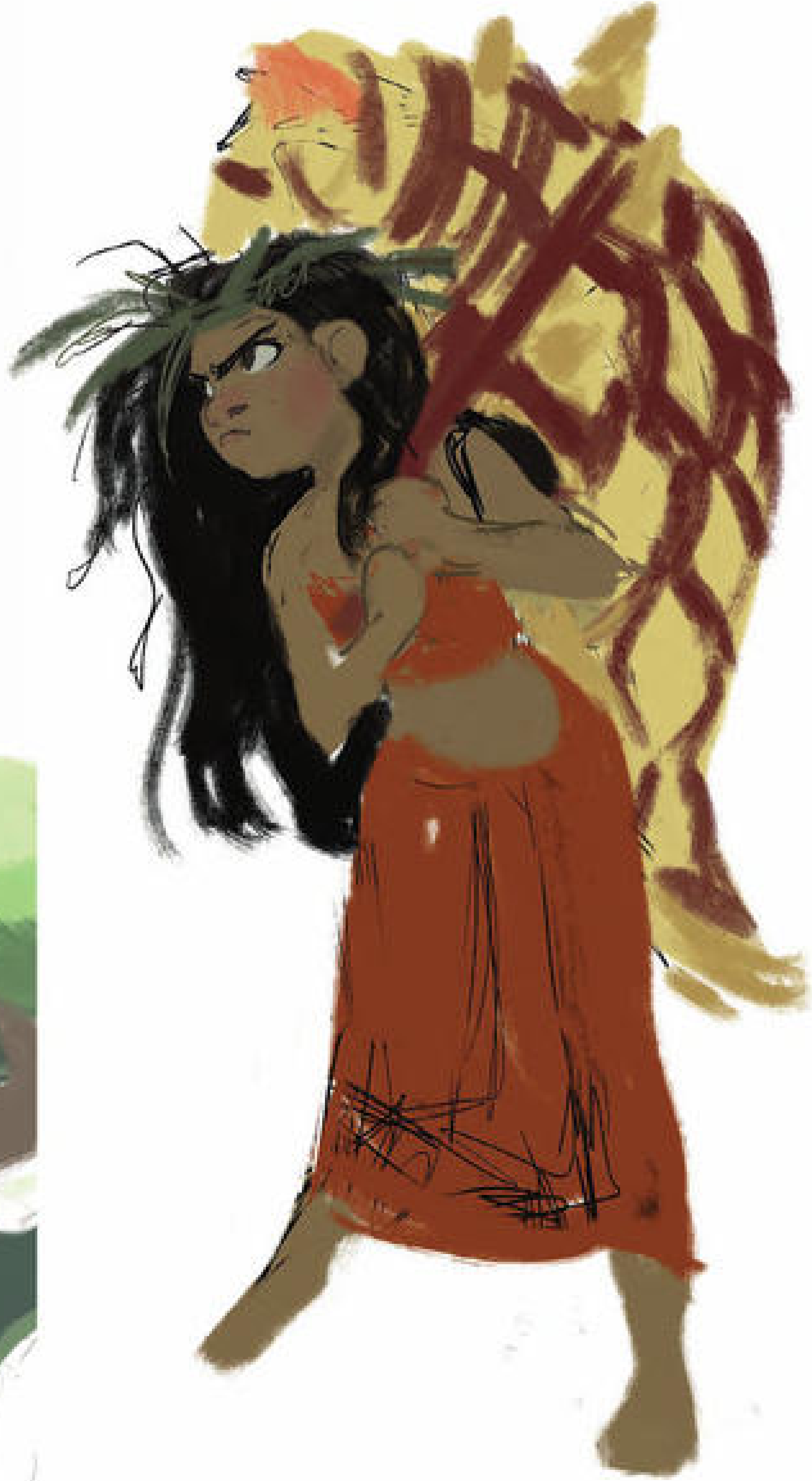
Annette Marnat | graphite, digital paintover



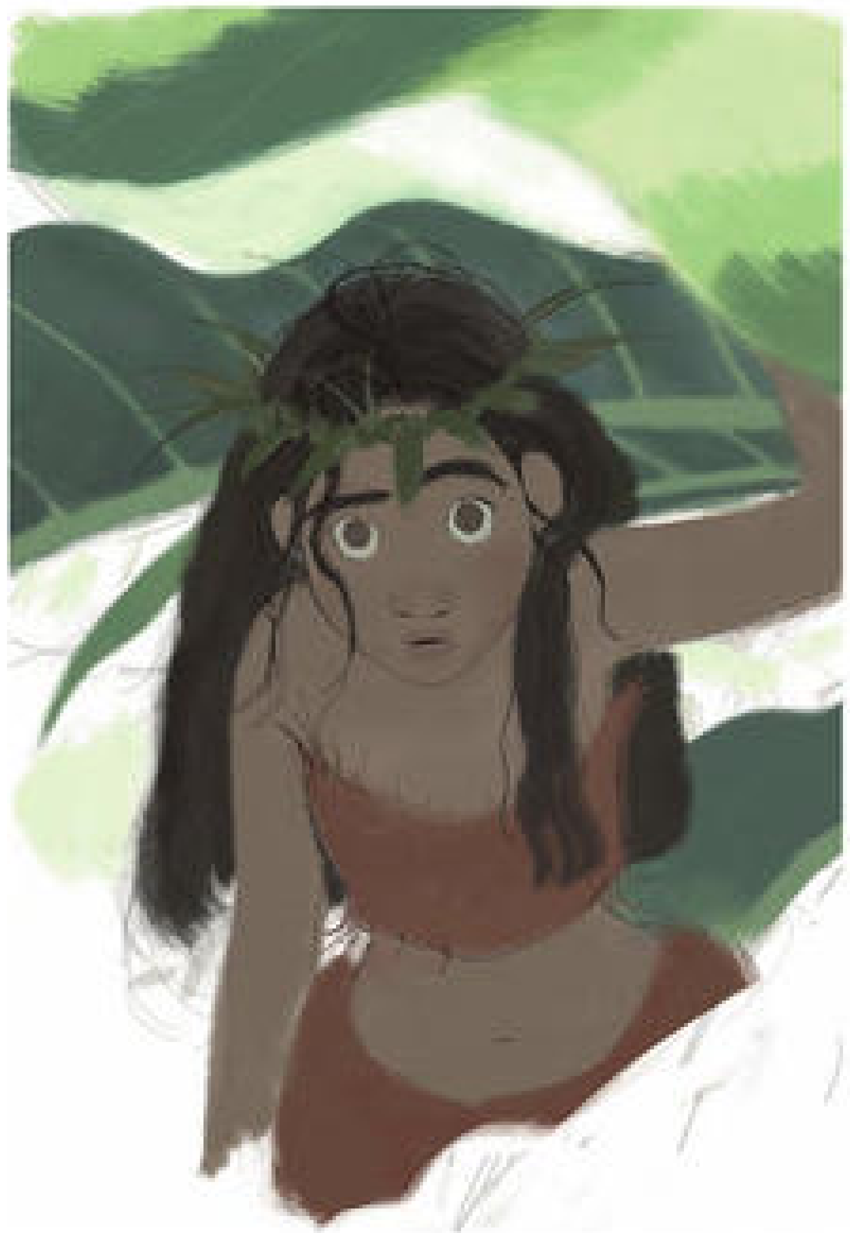
Annette Marnat | digital



Minkyu Lee | digital



Scott Watanabe | digital



Minkyu Lee | digital

According to experts, in the film's time period, no one wore shoes. And tiny feet just looked wrong on Moana. [Visual development artist] Annette Marnat had interesting ways of looking at feet as a jumping off point.
— Ian Gooding, production designer

Women and men from the Pacific Islands often wear their hair in a topknot. It was amazing to see how they'd do it in one simple motion. I watched one lady wrap up and bun her hair in three seconds. It was so graceful — twist, twist, twist, wrap, and tuck — that you could tell she'd done it a million times.

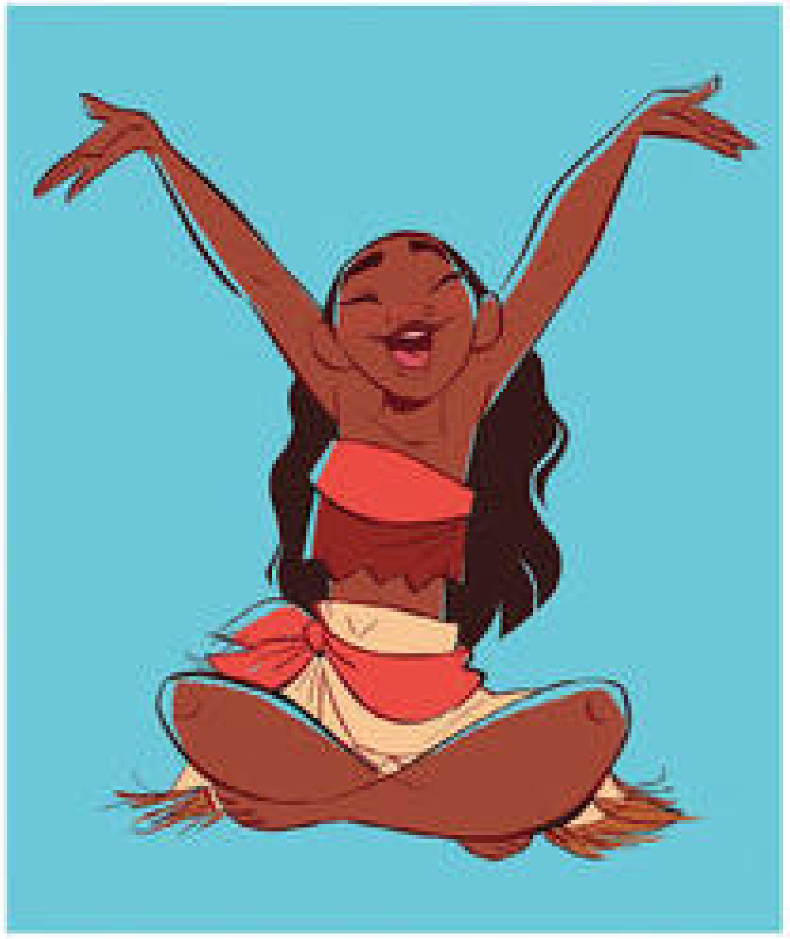
— David Pimentel, head of story

Bill Schwab | digital

Bill Schwab | digital

Bill Schwab | digital

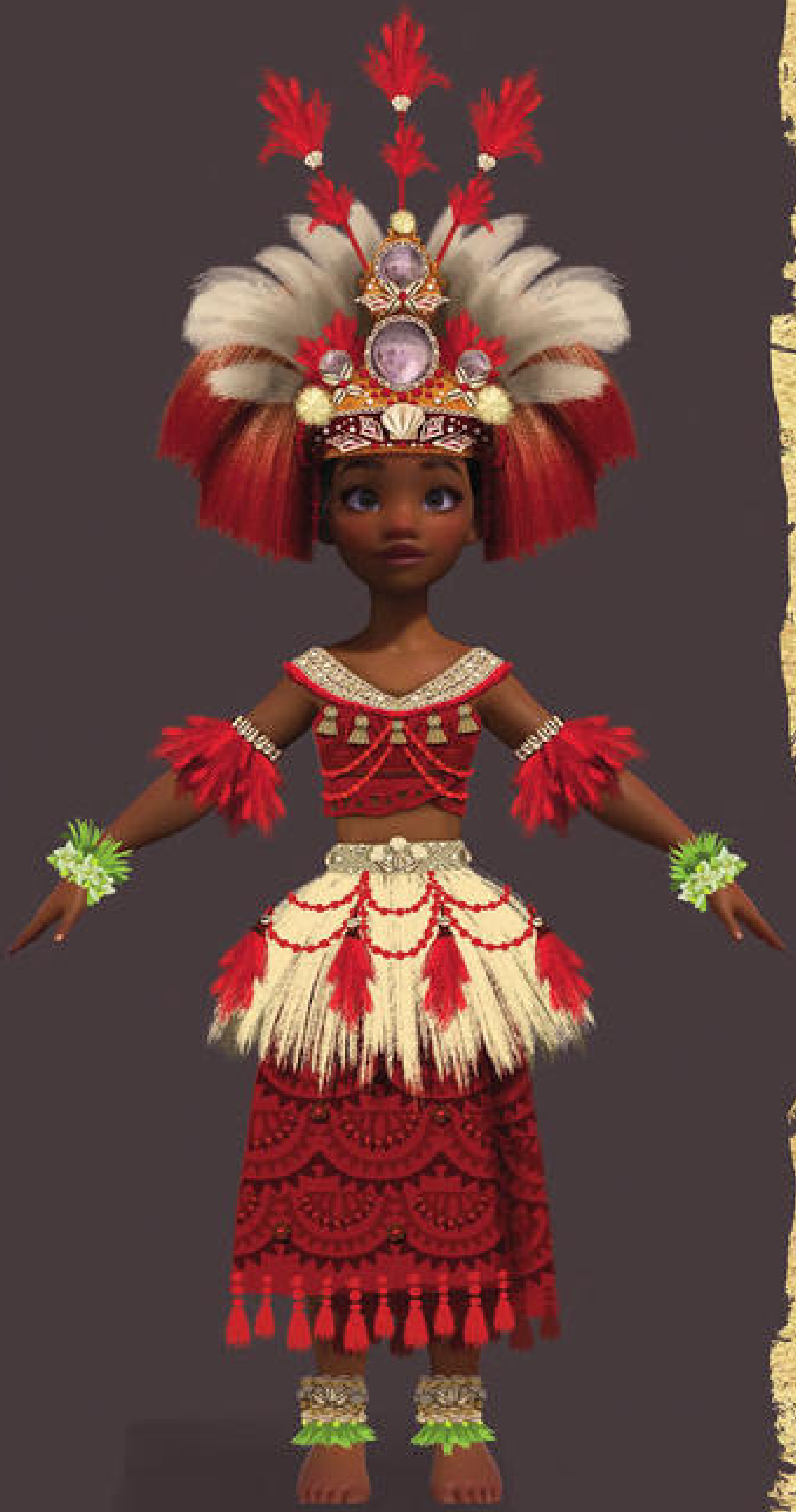
John Musker | ink



Bill Schwab | digital

Bill Schwab | digital

Brittney Lee | digital



Neysa Bové | digital

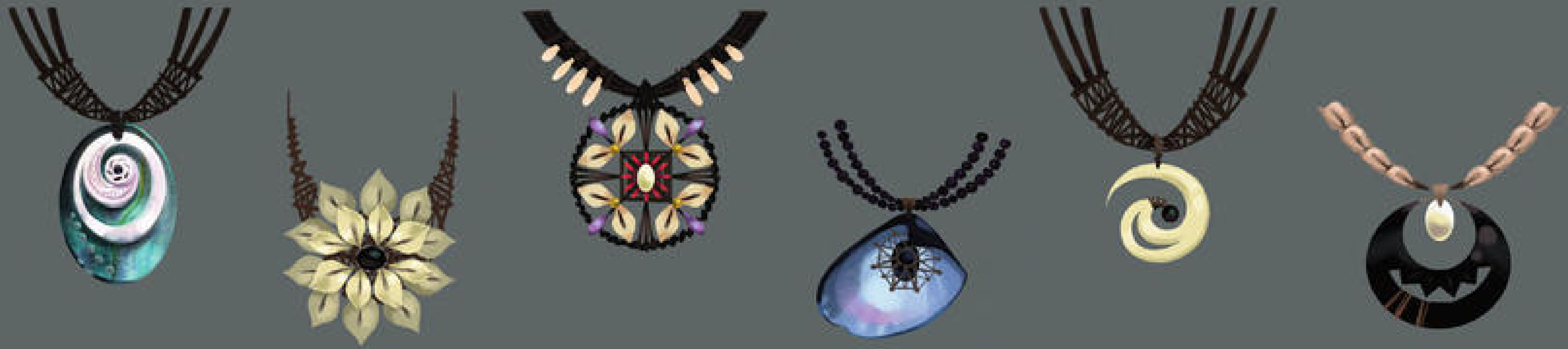
Moana's ceremonial outfit is inspired by the *taualuga* ceremony in Samoa. Traditionally, the headdress is made from real hair from the ancestors, which is imbued with *mana* [spiritual power]. We used dried grass instead. The bodice and skirt is made of *tapa*. It's covered in pandanus leaves, feathers, and cowrie shells.

— Neysa Bové, visual development artist

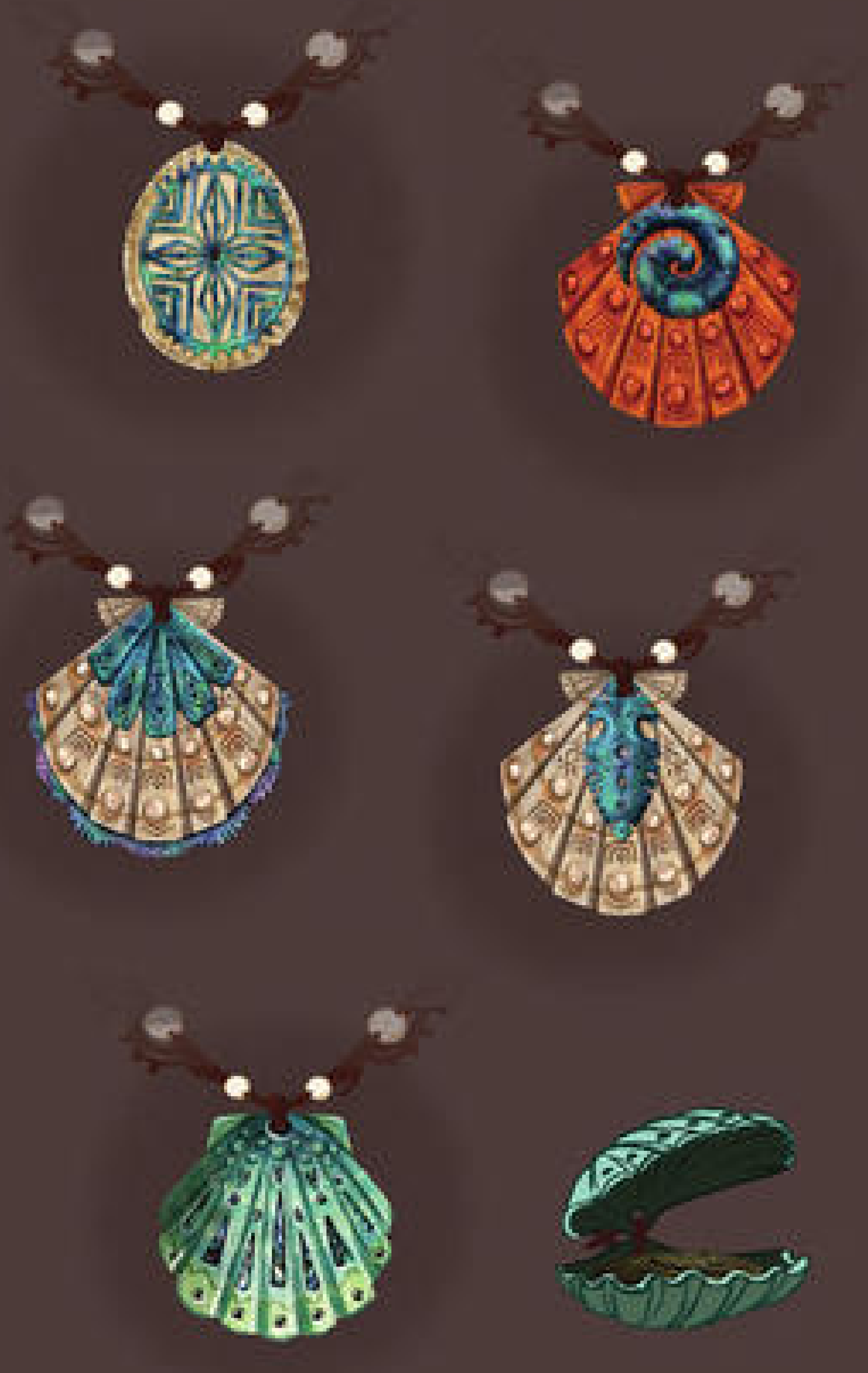
Neysa Bové | digital

Brittney Lee | digital

Neysa Bové | digital

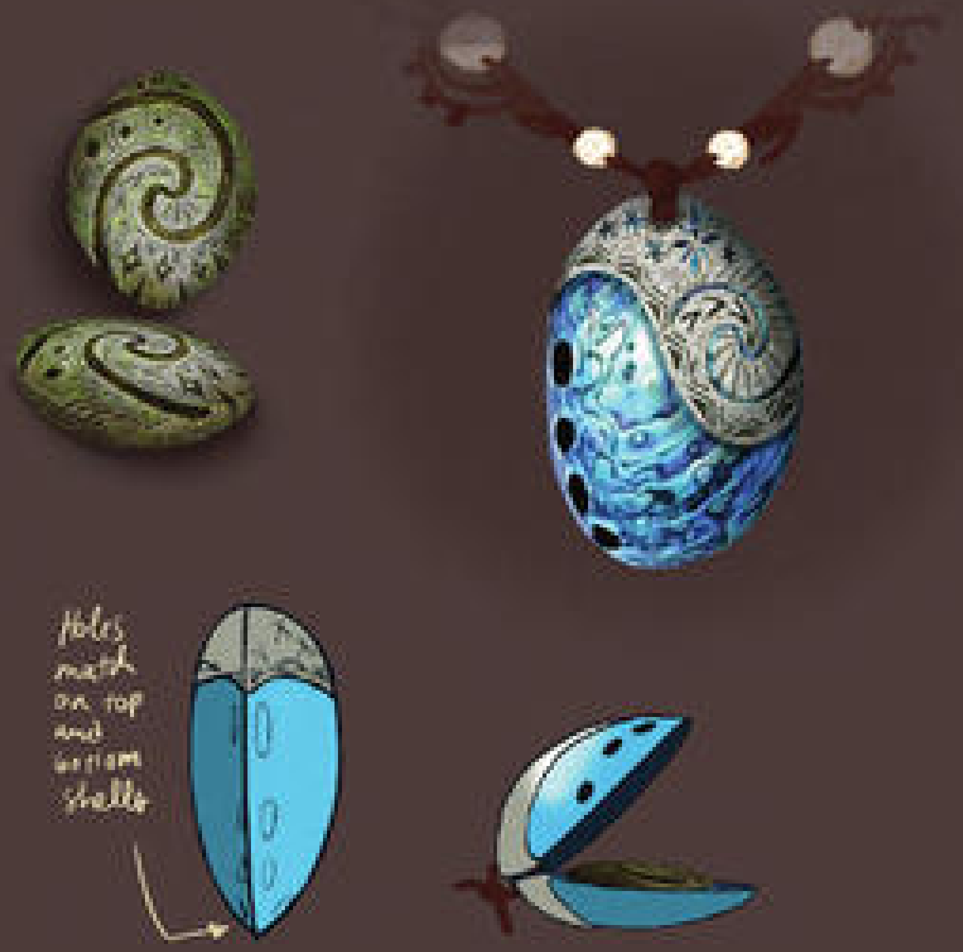


Brittney Lee | digital



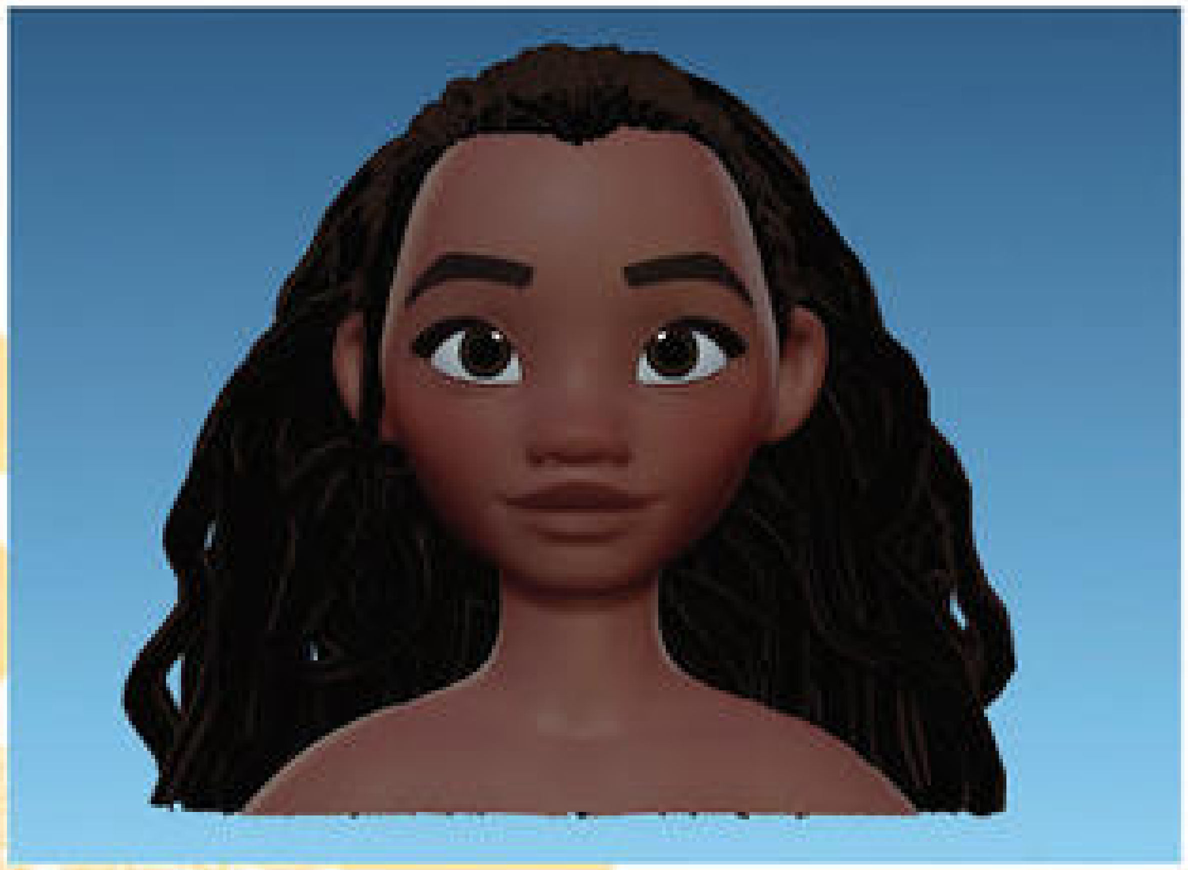
Moana's necklace is a locket where she holds the heart of Te Fiti [the Mother Island]. It's made from abalone shells carved to suggest a connection between land and water. It has a blue-toned iridescence that adds a magical quality. The chain is macramé with white pearls.

— Neysa Bové, visual development artist


Holes match on top and bottom shells

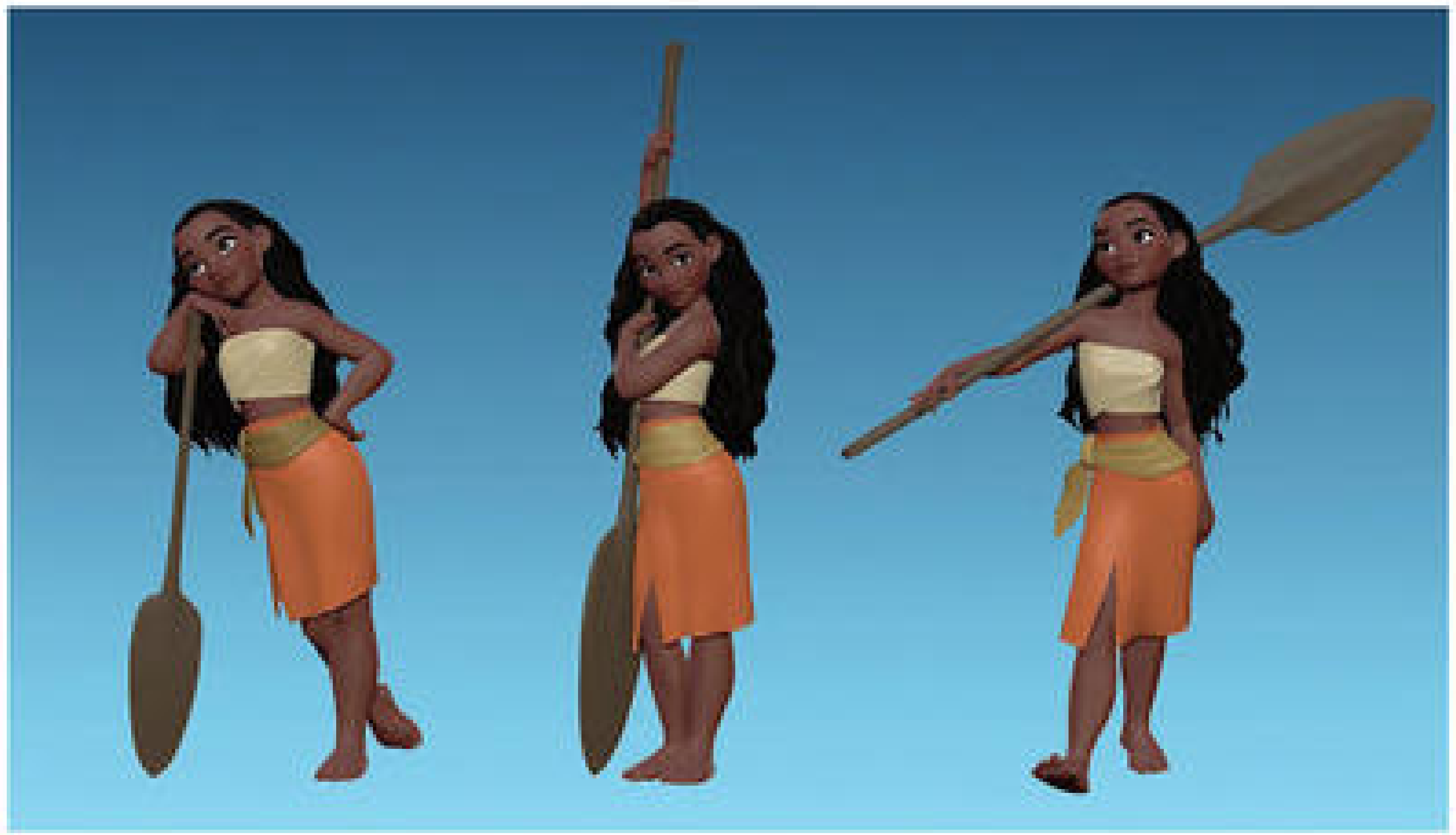
Neysa Bové | digital

Jin Kim | graphite, digital paintover



Chad Stubblefield | digital sculpt

> We focused closely on where joints pivot from, how muscles change shape, what happens to a shoulder blade when the arm lifts. We had to find the balance between realistic and cartoony, so the characters' anatomy moved in the sculptural style of the movie.
>
> — Bill Schwab, art director of characters



Chad Stubblefield | digital sculpt

Annette Marnat | graphite

Bill Schwab | digital

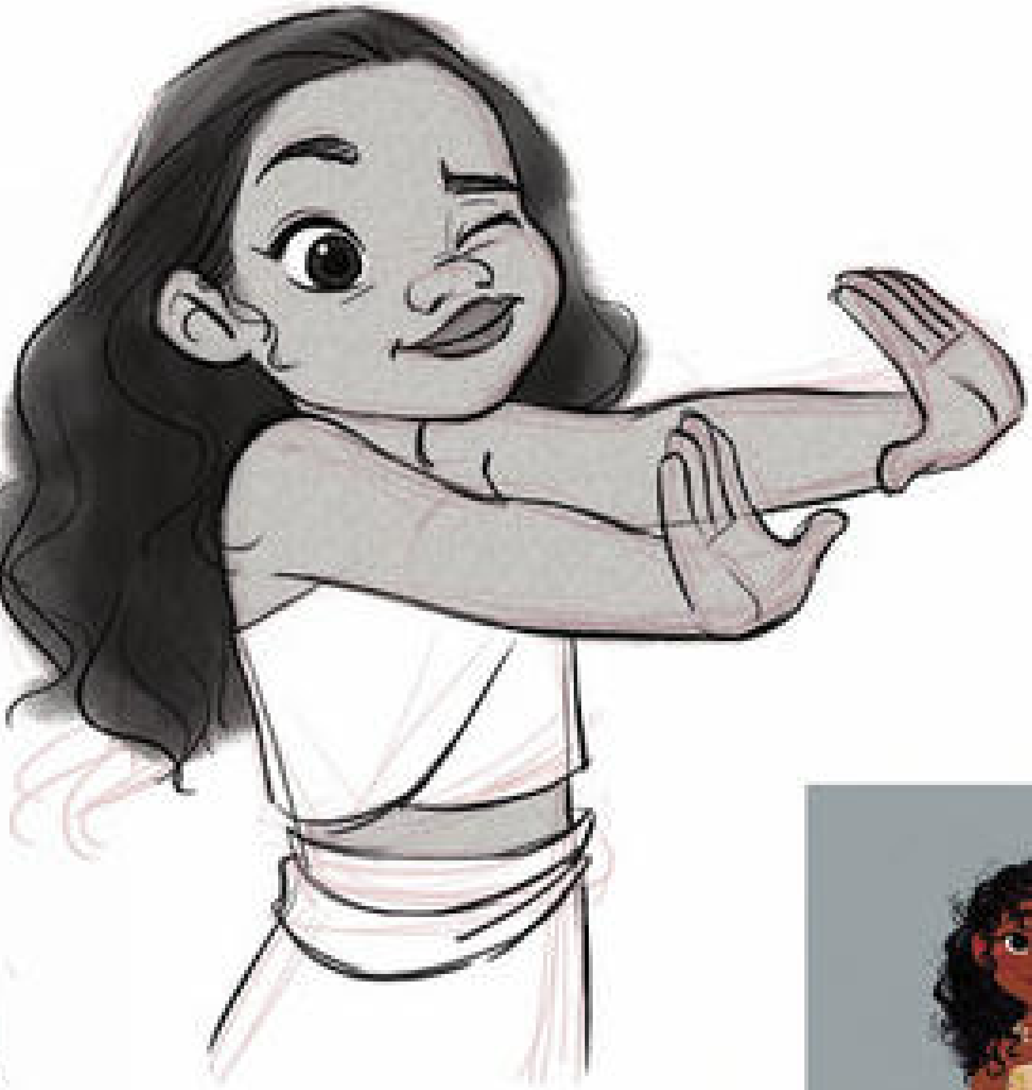
Brittney Lee | digital

Bill Schwab | digital

Bill Schwab | digital

Griselda Sastrawinata-Lemay | digital

Bill Schwab | digital



Hyun Min Lee | digital

Griselda Sastrawinata-Lemay | digital

VOYAGERS AND VILLAGERS

As wayfinders, Moana's ancestors were constantly moving and exploring new islands. Their culture was one of endless newness. But then, for a millennium and for reasons unknown, their voyages stopped. Moana's ancestors settled in Motunui, and now no one goes farther than the reef encircling their island.

Both the ancient voyagers and the Motunui villagers appear in *Moana*, and the differences between them are reflected in their designs. "The voyagers lived a nomadic lifestyle so they don't have anything that feels permanent," says production designer Ian Gooding. "Their clothes are made out of mostly fresh vegetation, nothing that takes a lot of time to make. When the leaves or flowers they're wearing die, they just pick new ones." This is a contrast to the film's present day villagers. "A thousand years later, Moana's people are very settled. Everything they wear is dried, or made using labor-intensive fabrics like *tapa*. They have permanent tattoos. They've lost the nomadic nature of their ancestors."

Bill Schwab, art director of characters, notes that, "[Executive producer] John Lasseter pressed us early on to sweat the details in the costuming. So much beautiful, intricate, handcrafted work goes into these outfits." So the team brought in a costume designer, Neysa Bové, to design the clothing and accessories for *Moana*. "Neysa was a revelation. What she's done with the costuming is something none of us could have imagined originally," says producer Osnat Shurer. "It seemed at first that we would have so little to play with—you can't sew, you can't entirely cut, there are no fabrics, you're working with *tapa*, or woven pandanus, and just whatever is naturally there. Yet

James Finch | digital

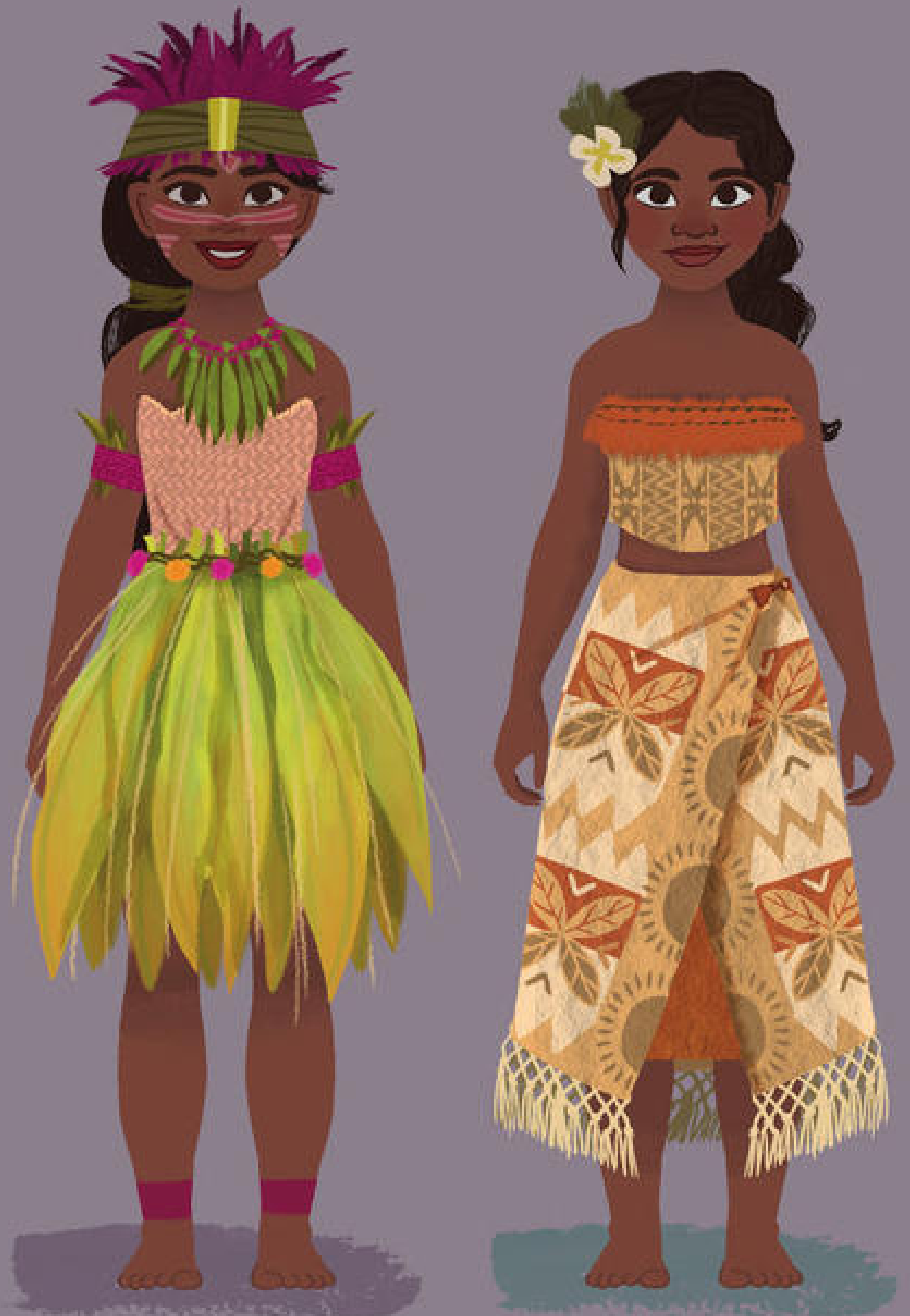
Neysa was able to take inspiration from the materials of the time and place, add in some high fashion, and put it all together in a way that someone there and then could have made with those materials. She really upped the look of the characters through color, print, and texture. The designs are gorgeous."

"The voyagers would move to one island, establish it, then go find the next thing. It was a 'grab and go' approach to dressing," explains Bové. "They'd find ti or palm leaves and quickly put them together, maybe shredding them at the bottom to add a bit of beauty. And they brought in a lot of color from the vegetation around them."

In contrast, "the Motunui villagers lose their color," Bové continues. "They've established themselves. The plants they use are dried, and when things dry they become brown. The materials are still beautiful, but it shows they've spent a bit more time on each thing because they have the time to make it."

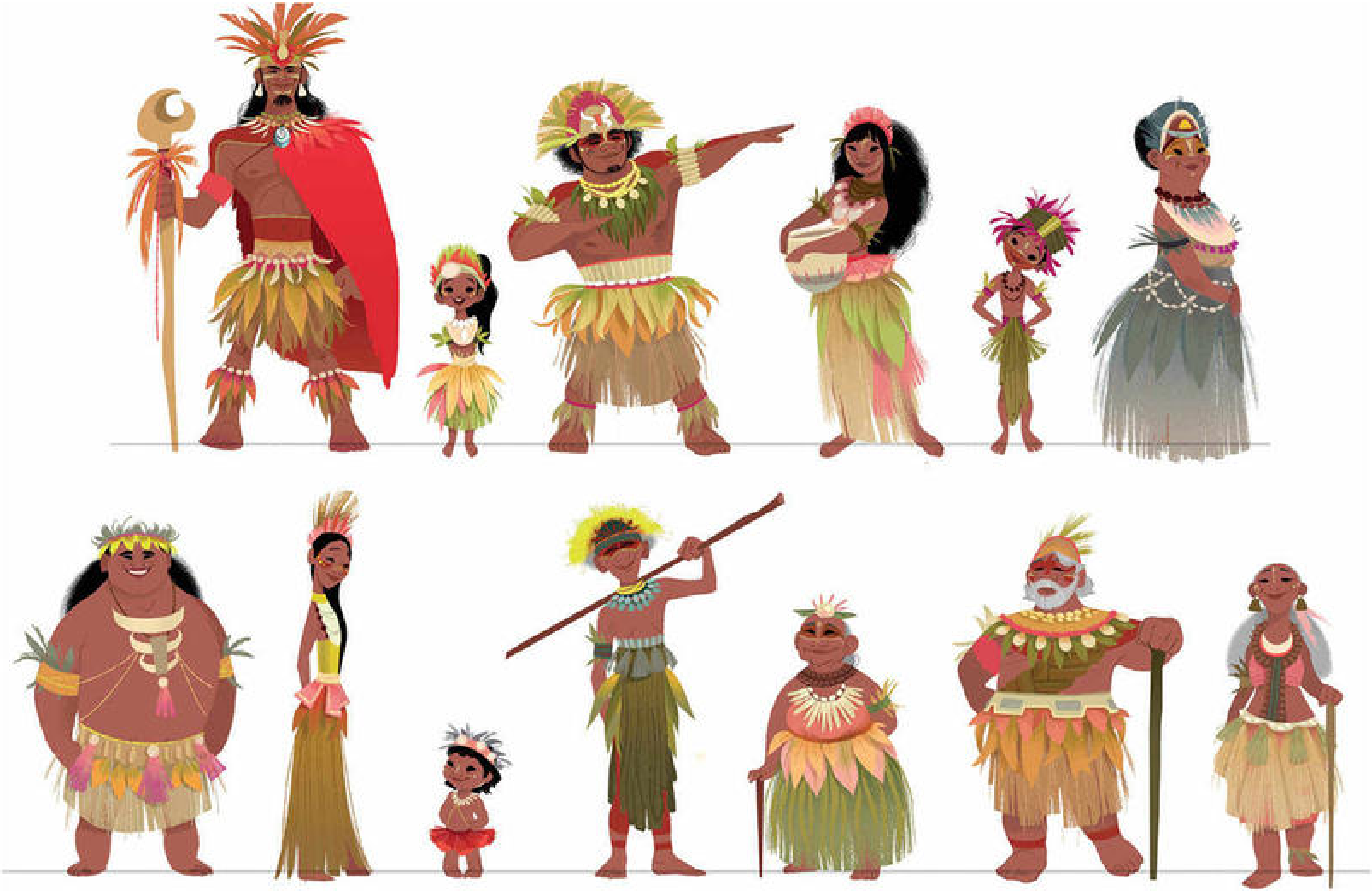
That included time to produce *tapa*, a type of bark cloth used throughout Oceania to make clothing and domestic items such as mats or screens. It's made from the inner bark of various trees and shrubs, most often mulberry trees. "The bark is pounded and pounded until the fibers become very soft, flattening and widening out. Different pieces can be felted then beaten until they mesh together to become one big piece," explains Gooding. "High quality *tapa* is really soft and moves nicely. It's a little stiffer and thicker than woven fabric, but the more you wear it, the softer it gets."

The difference between the voyagers and villagers, Schwab adds, "even shows in their physiques. The voyagers are lean, muscular, and toned. They had to be in excellent physical shape when they set out on the ocean for who knows how long before they'd arrive in a new island. So Matai Vasa, who is the leader of the voyagers in the movie, is pretty ripped, relative to Moana's father, Chief Tui, who is more like a powerful but aging athlete."

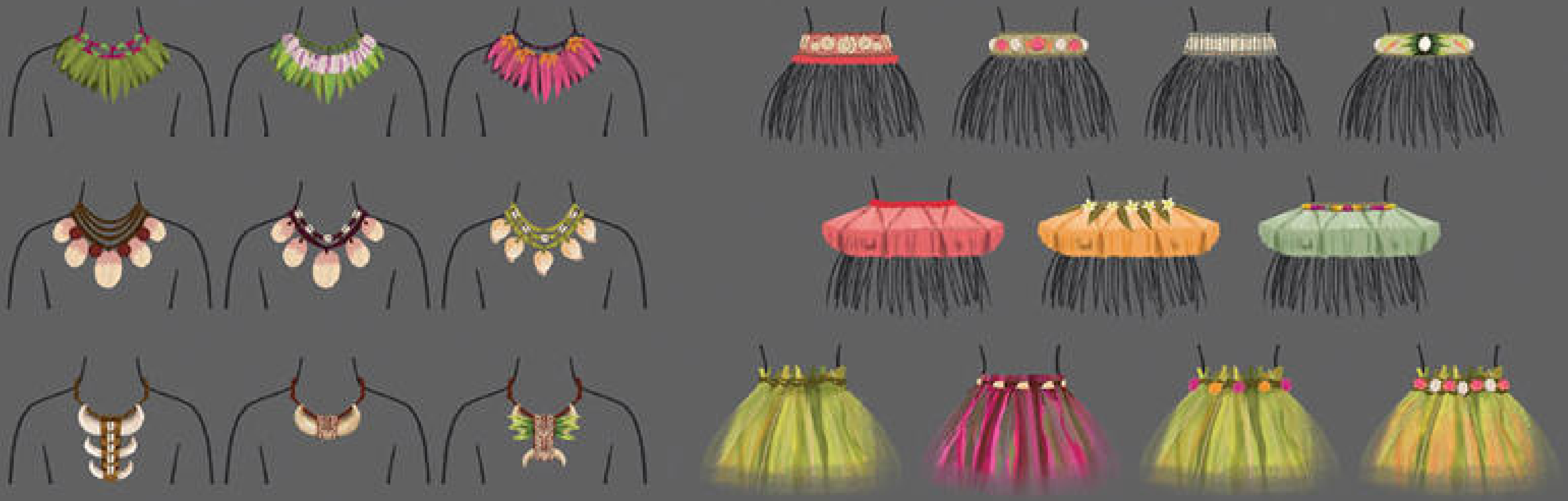


Neysa Bové | digital

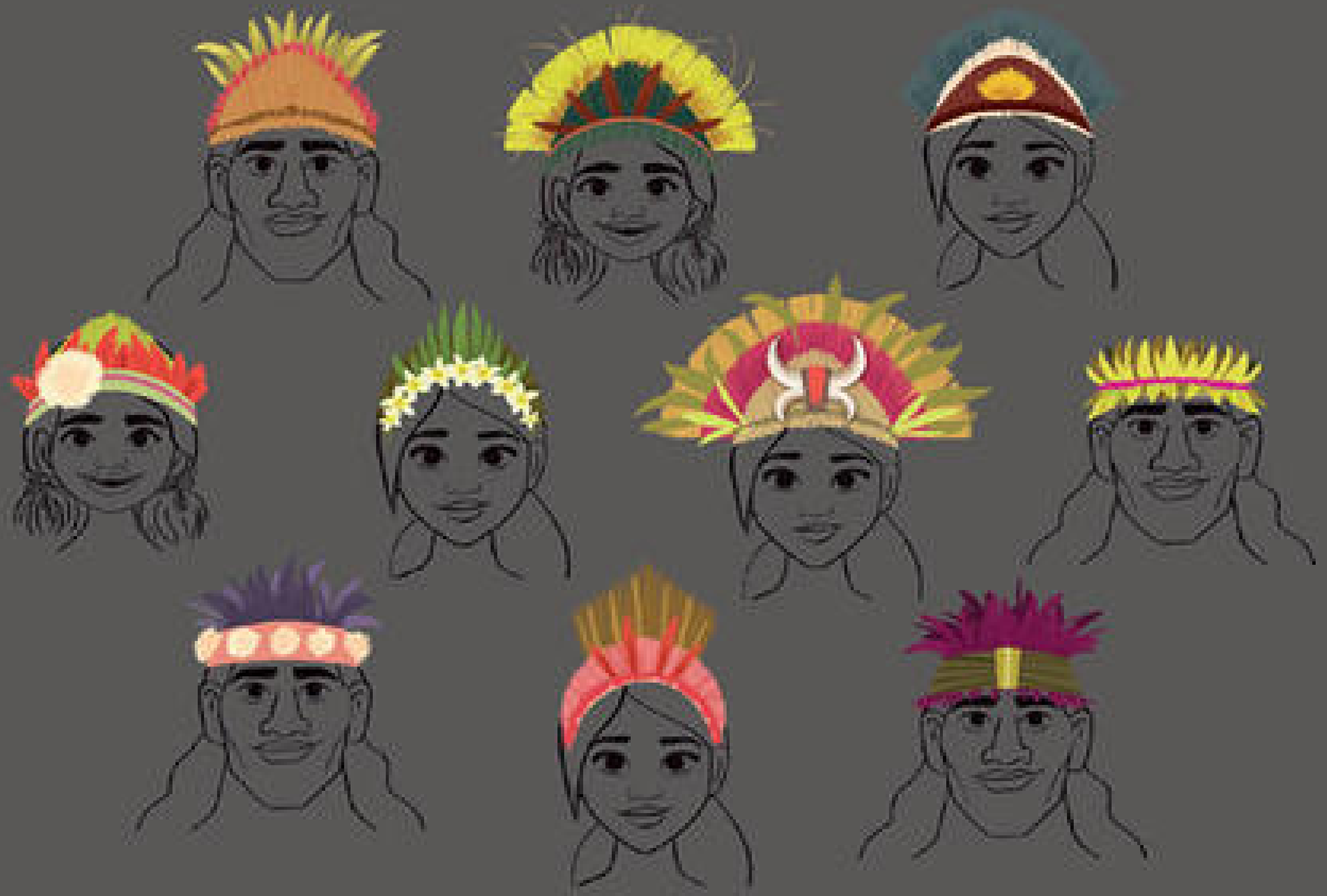
VOYAGERS



Brittney Lee | digital



Neysa Bové | digital



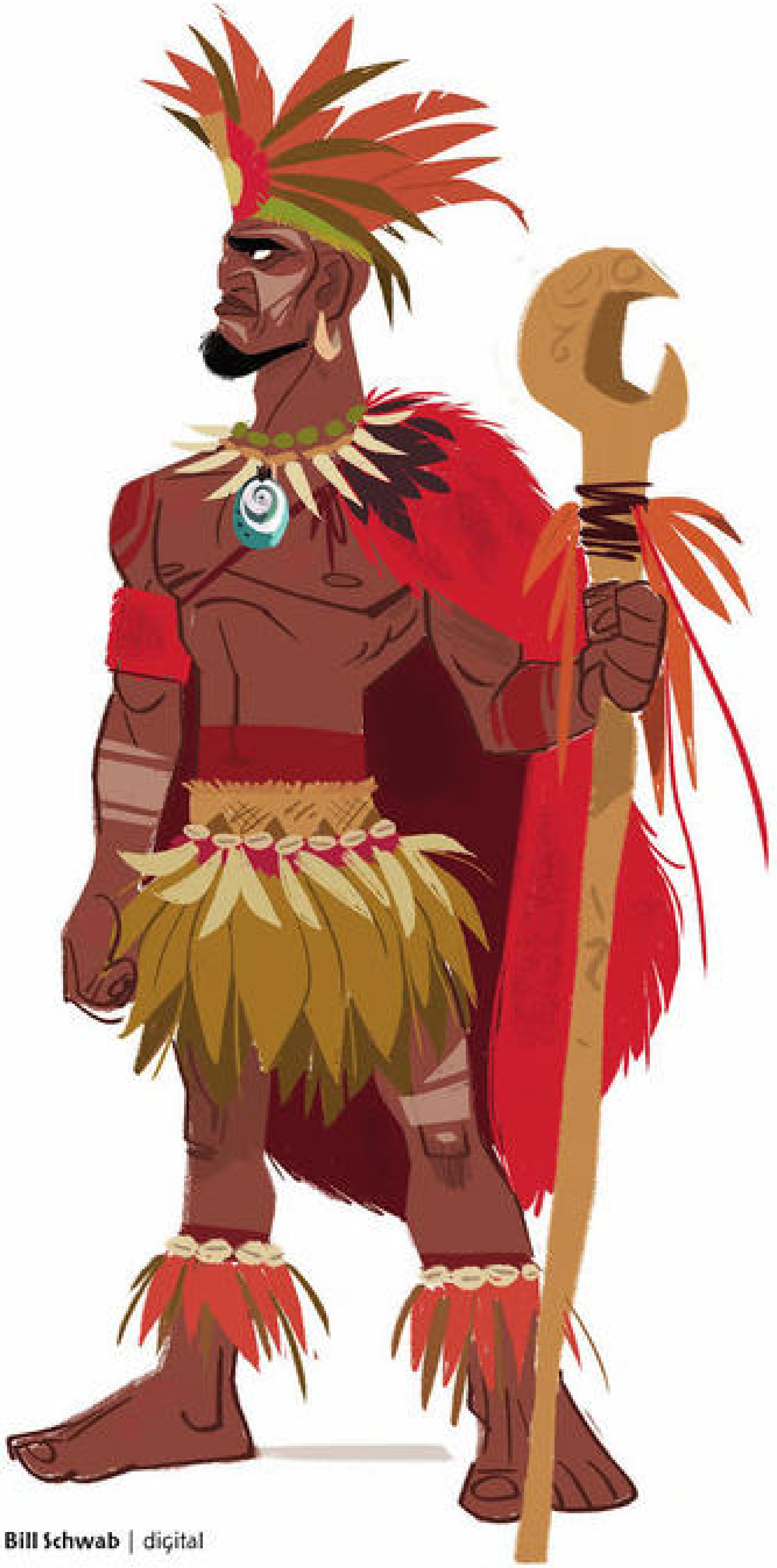
Neysa Bové | digital

There are many ways to put the clothes together. Belts with feathers or flowers, skirts with clean edges or with stems poking out, dried material dyed in different ways. They used seashells, sea urchin spines, or cowrie shells, which range in size from the size of your fingernail to the size of your hand. Different types and colors of leaves. Ti leaves alone can range from lime green to fuchsia!

— Neysa Bové,
visual development artist

Jin Kim | digital

Jin Kim | digital

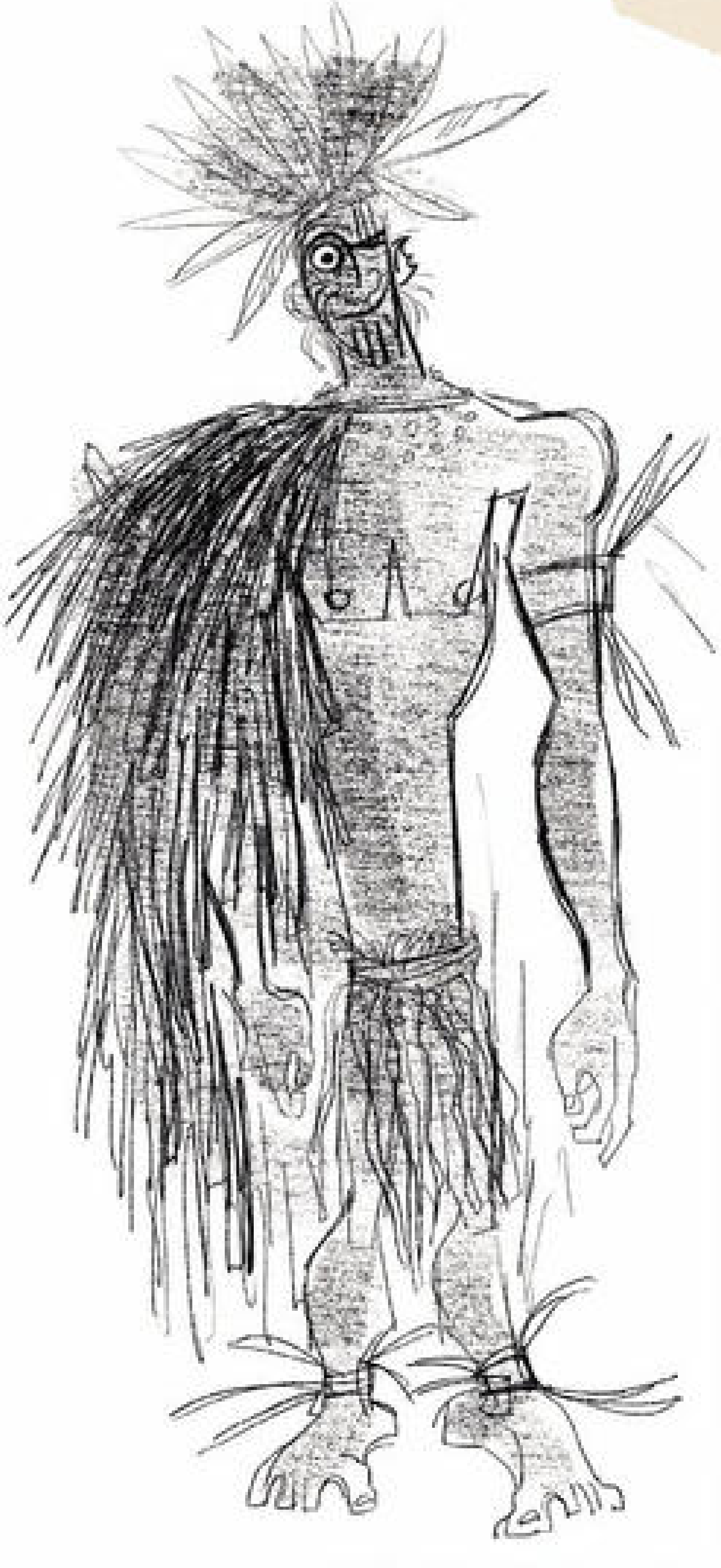


Bill Schwab | digital

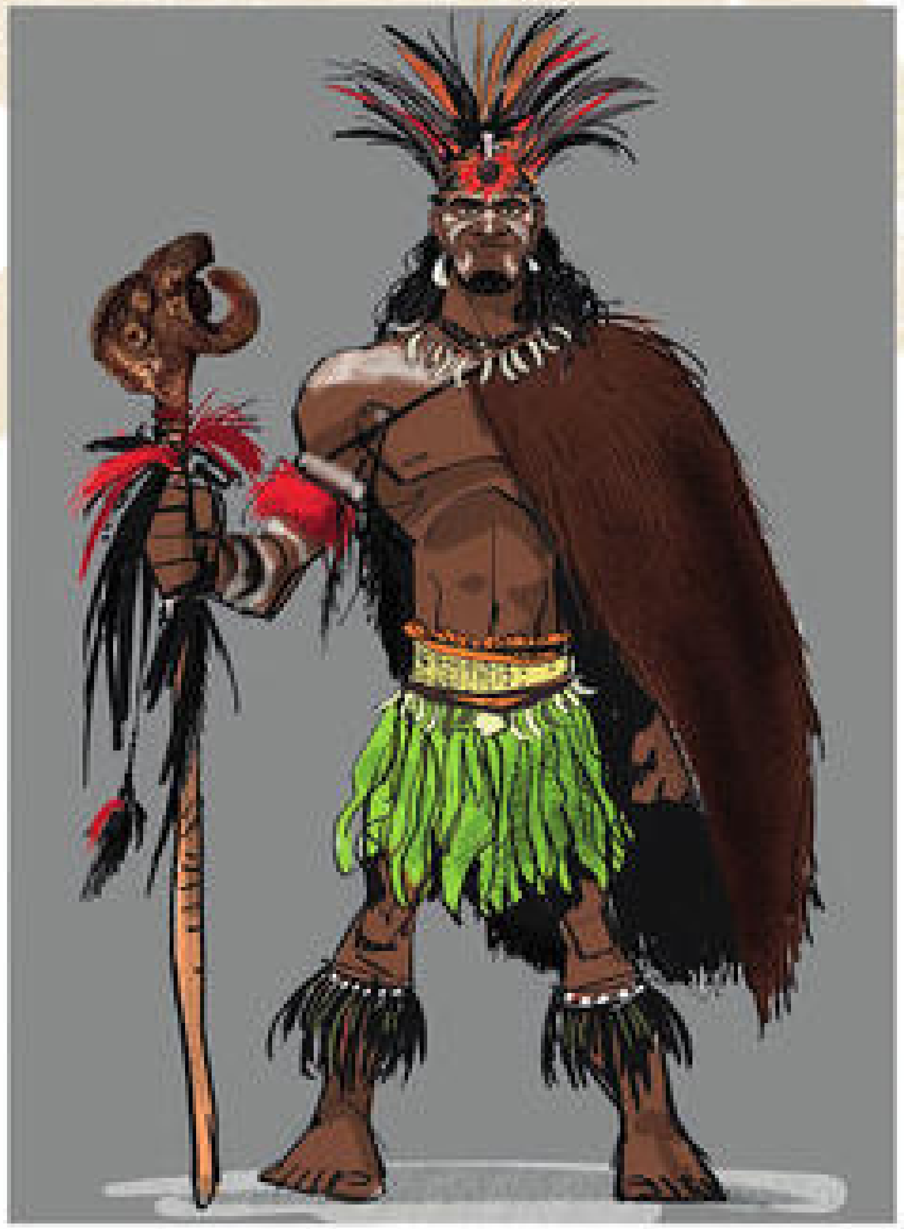
Jin Kim | digital

Jin Kim | digital

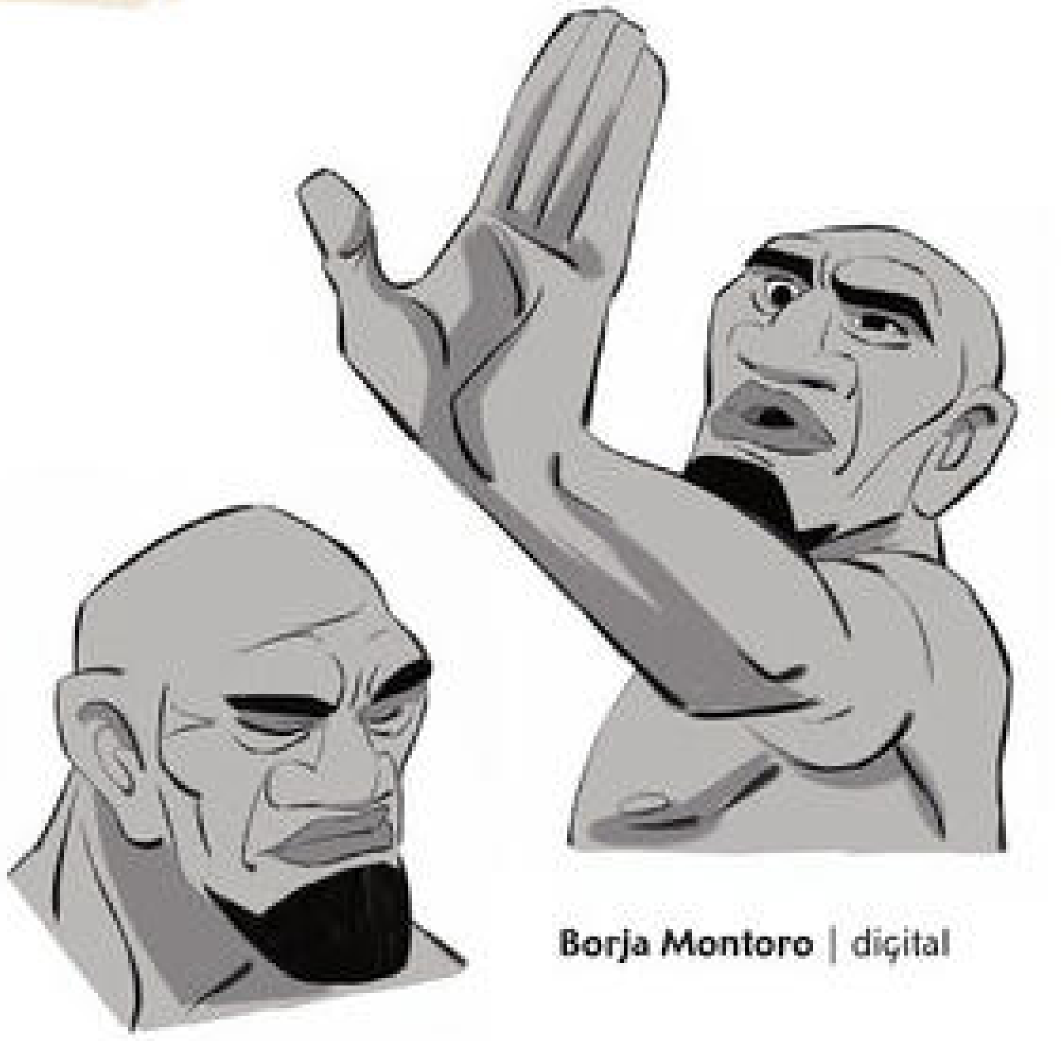
Matai Vasa is an idealized representation of the voyagers. He's a strong leader, very chiseled and tall, with the coolest outfit.
— Bill Schwab,
art director of characters



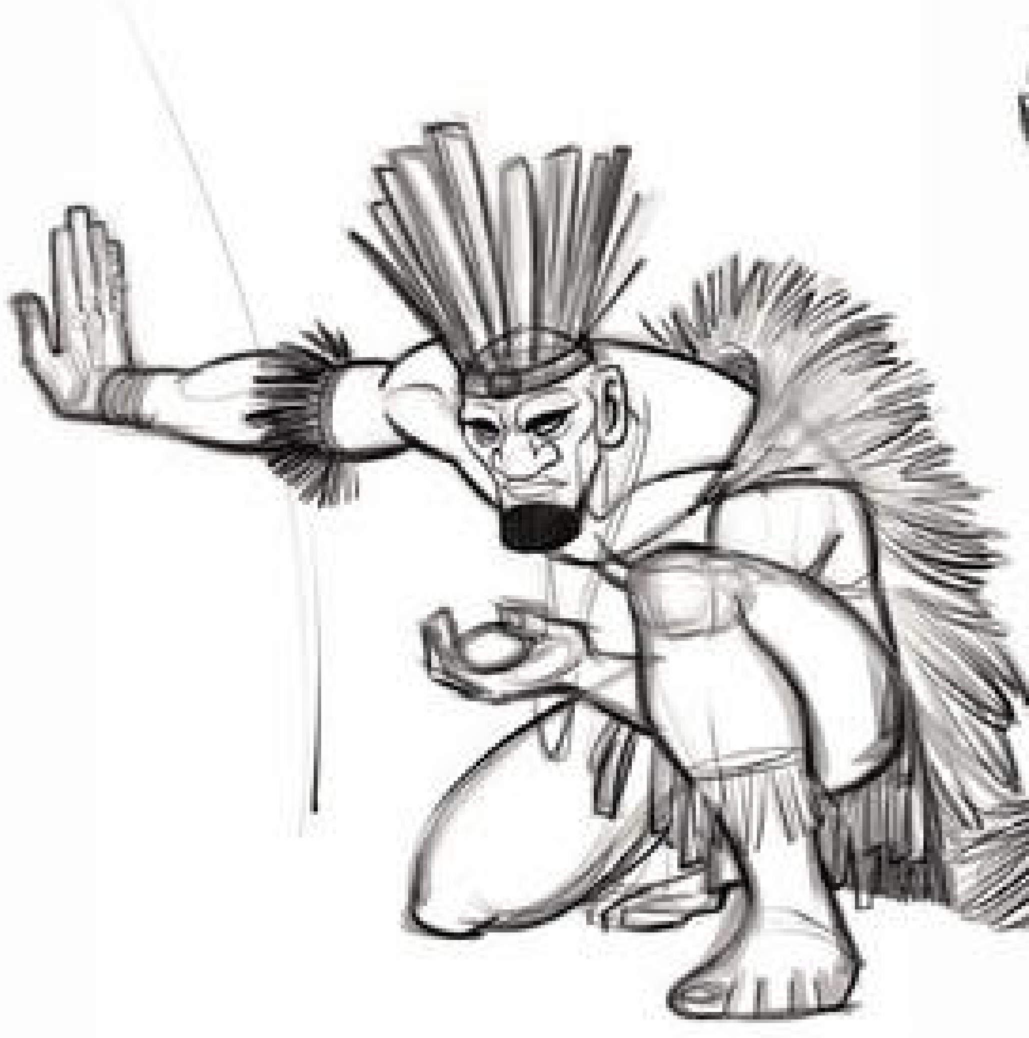
De'Von Stubblefield | digital



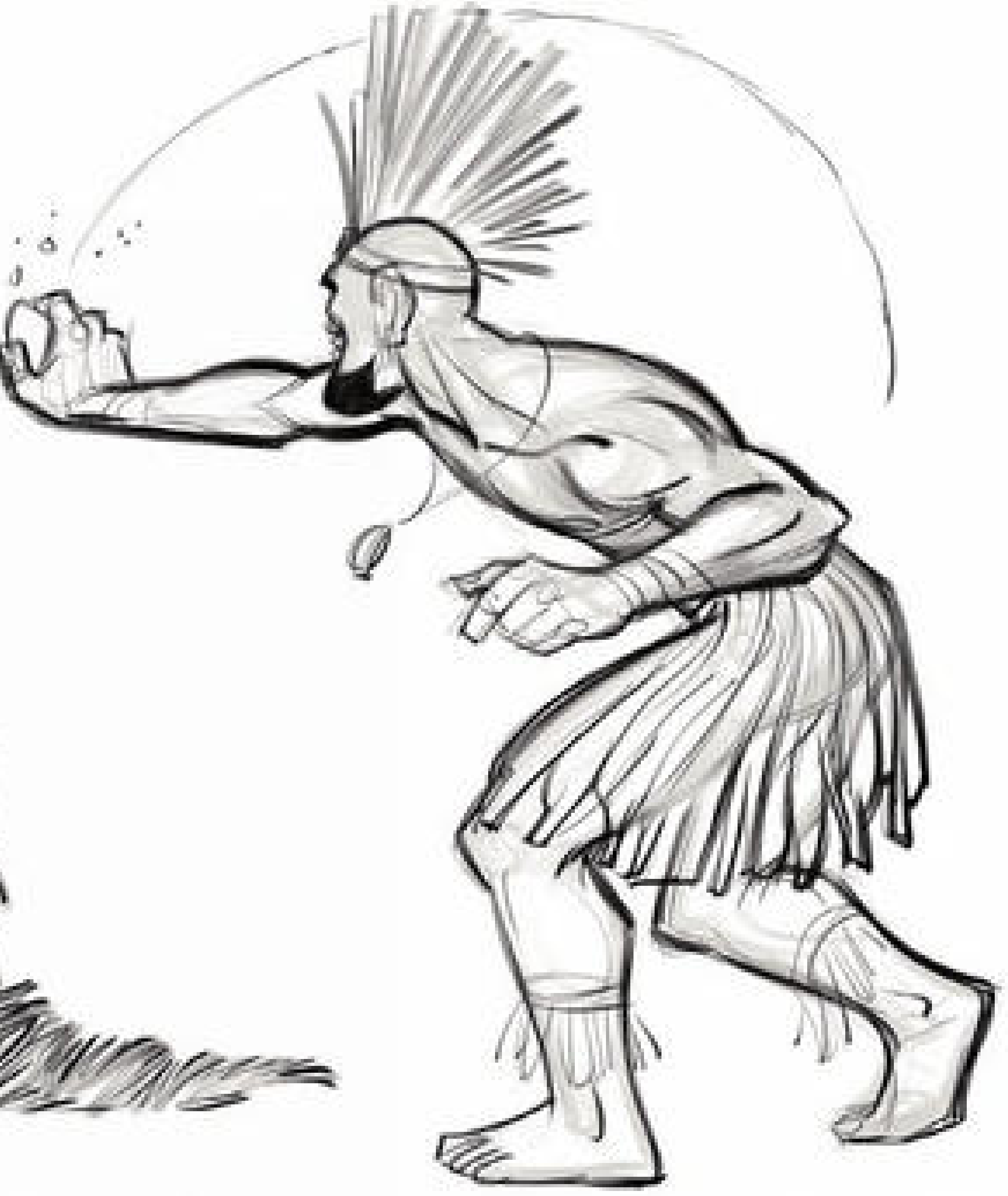
Jin Kim | digital



Borja Montoro | digital

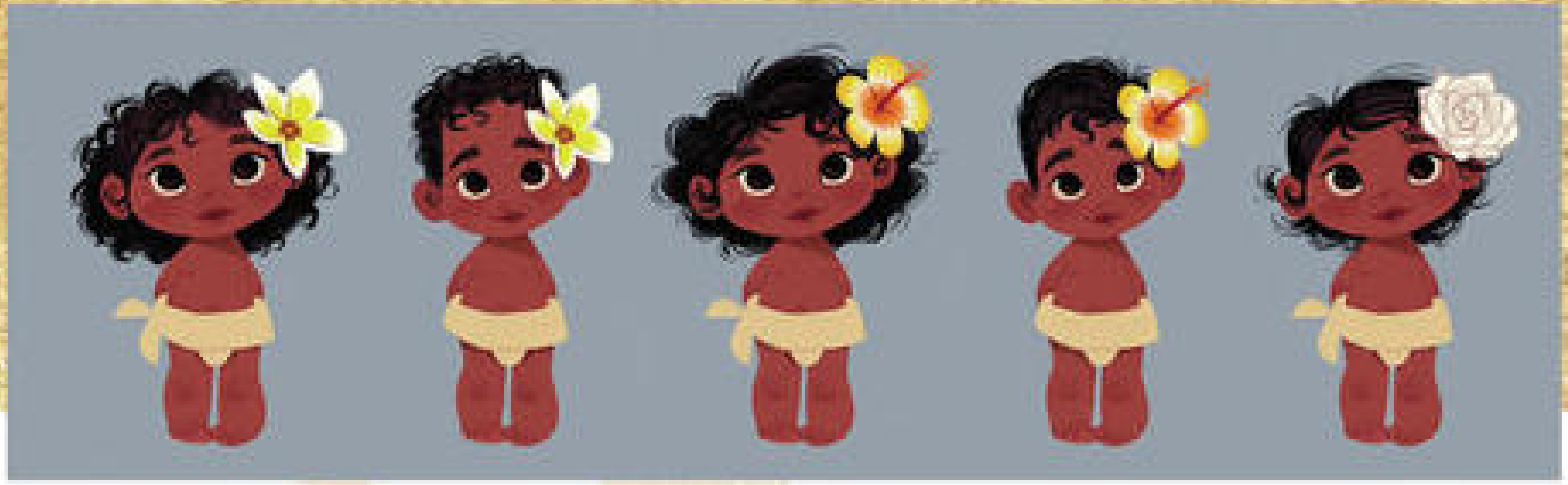


Borja Montoro | digital

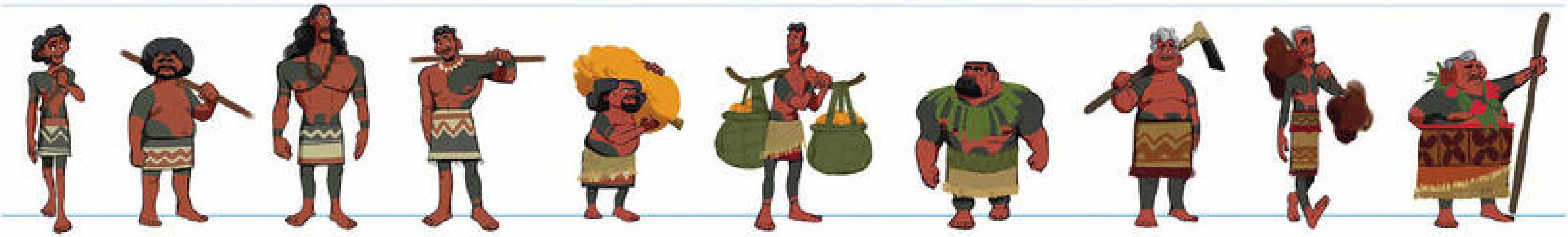


Borja Montoro | digital

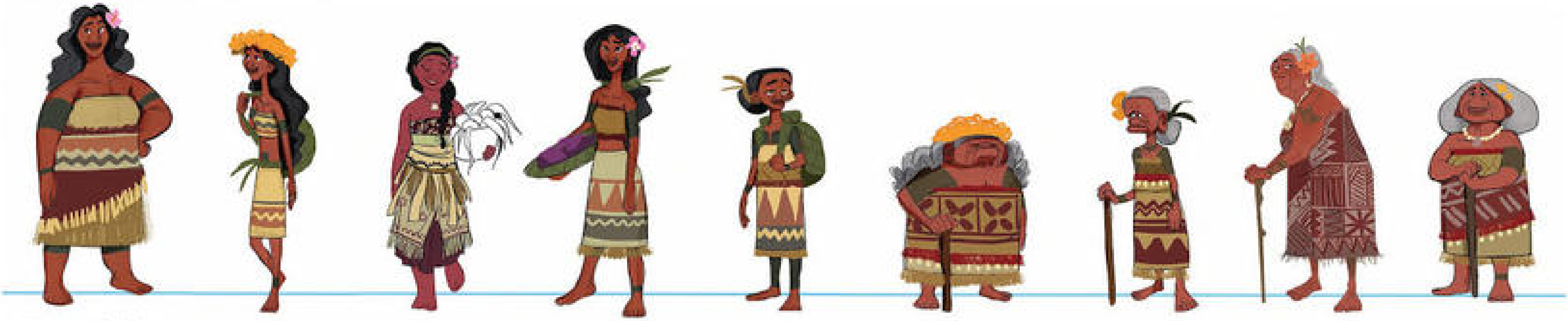
VILLAGERS



Griselda Sastrawinata-Lemay | digital



Nick Orsi | digital



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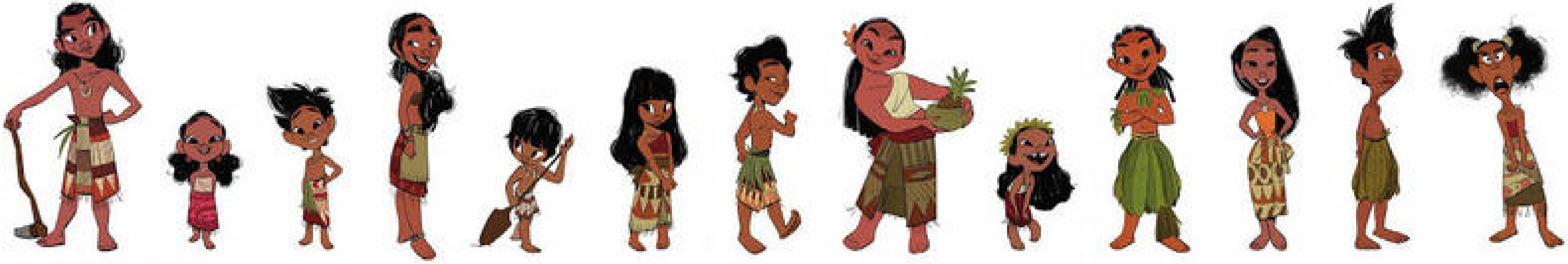
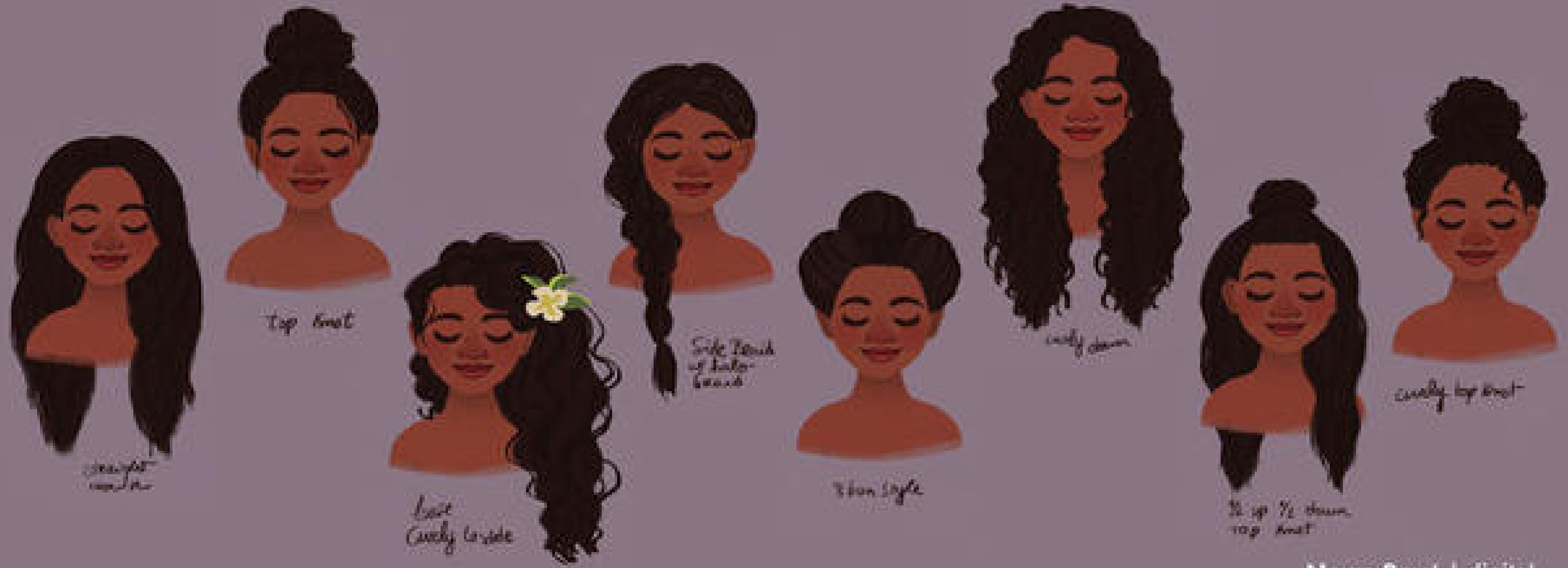
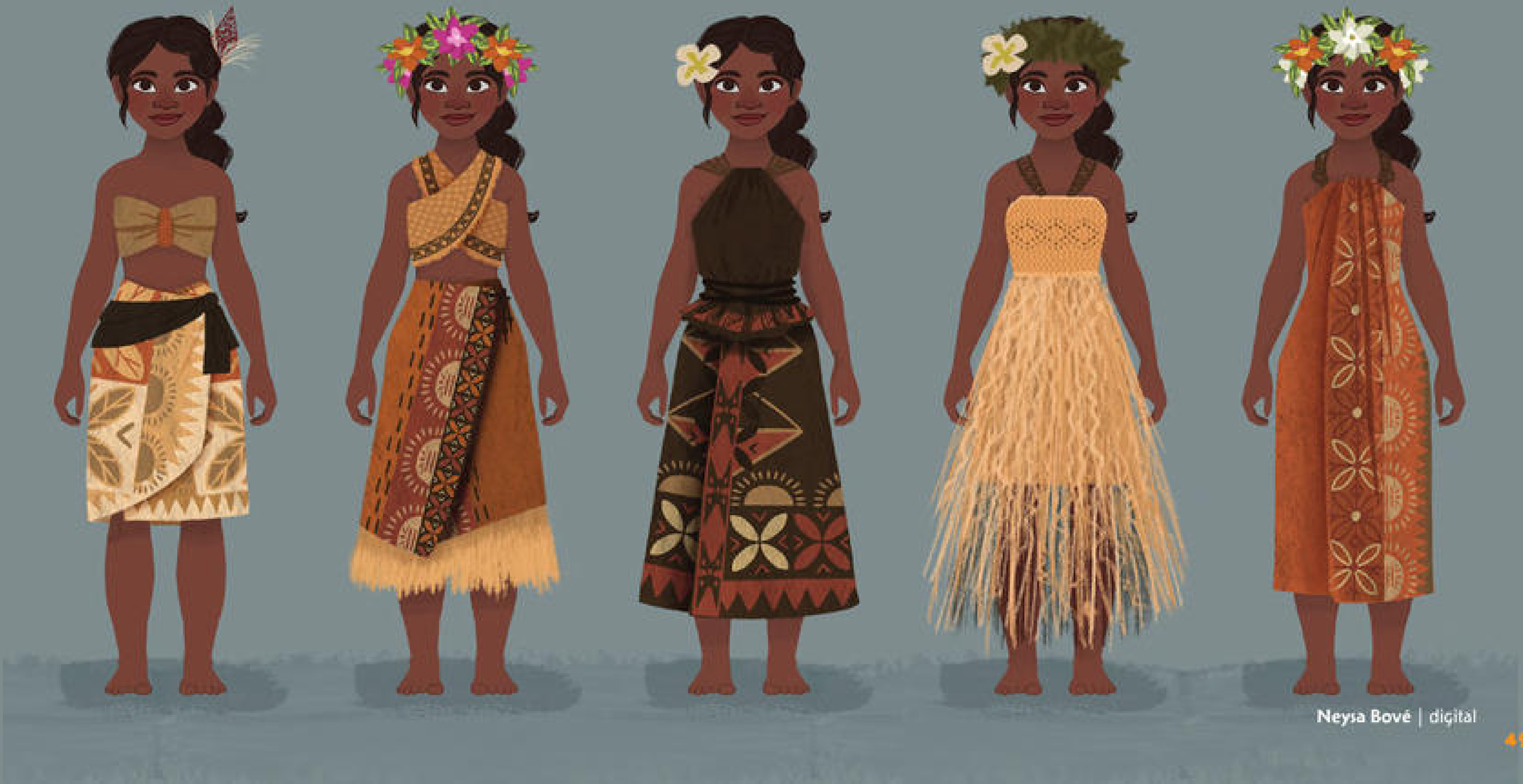


Bobby Pontillas | digital

A so-called "grass skirt" is actually made from the inner bark of the beach hibiscus tree that is repeatedly soaked in saltwater, then in freshwater, then beaten and shredded. It comes out soft.
— Ian Gooding,
production designer



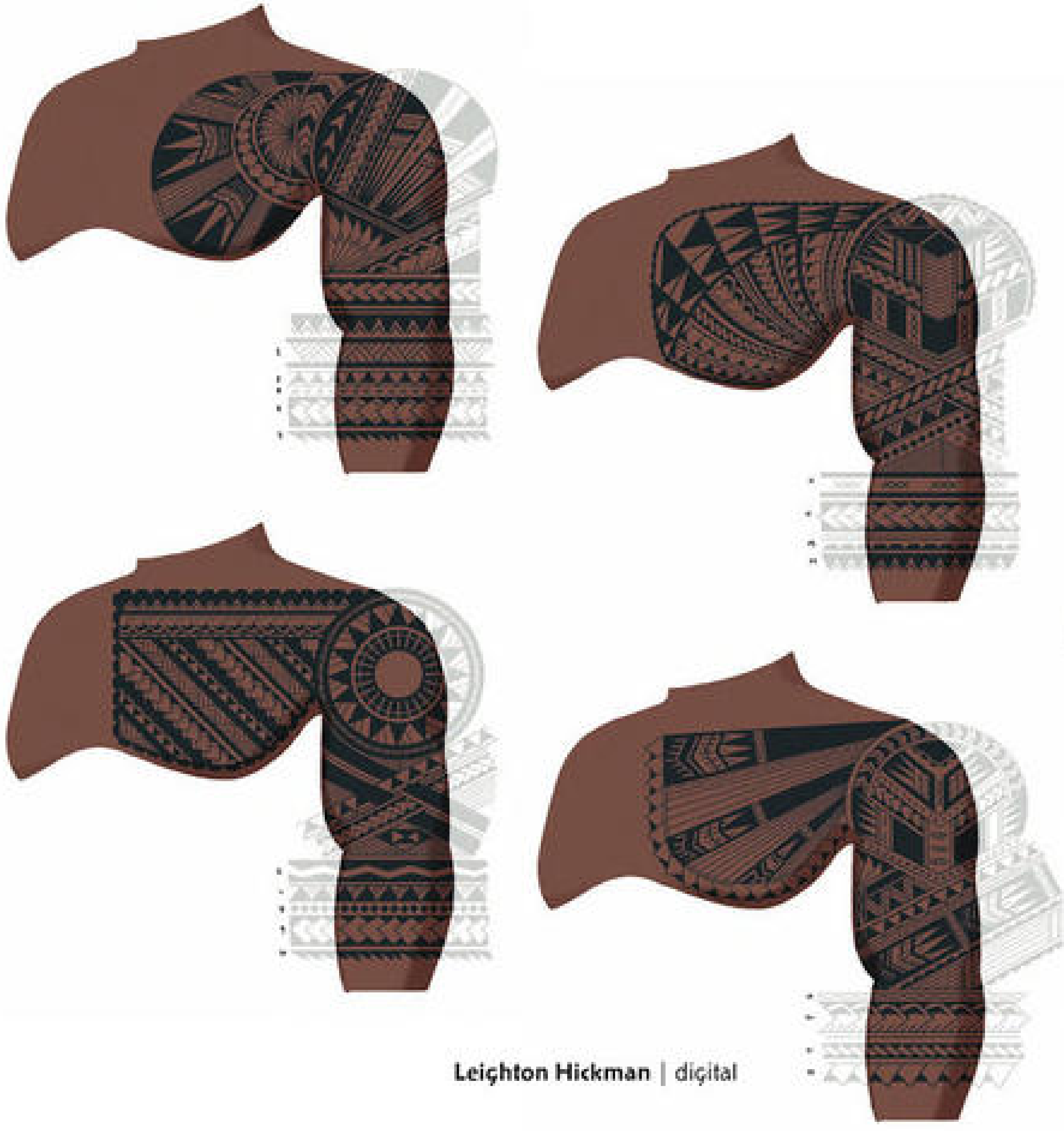
Neysa Bové | digital



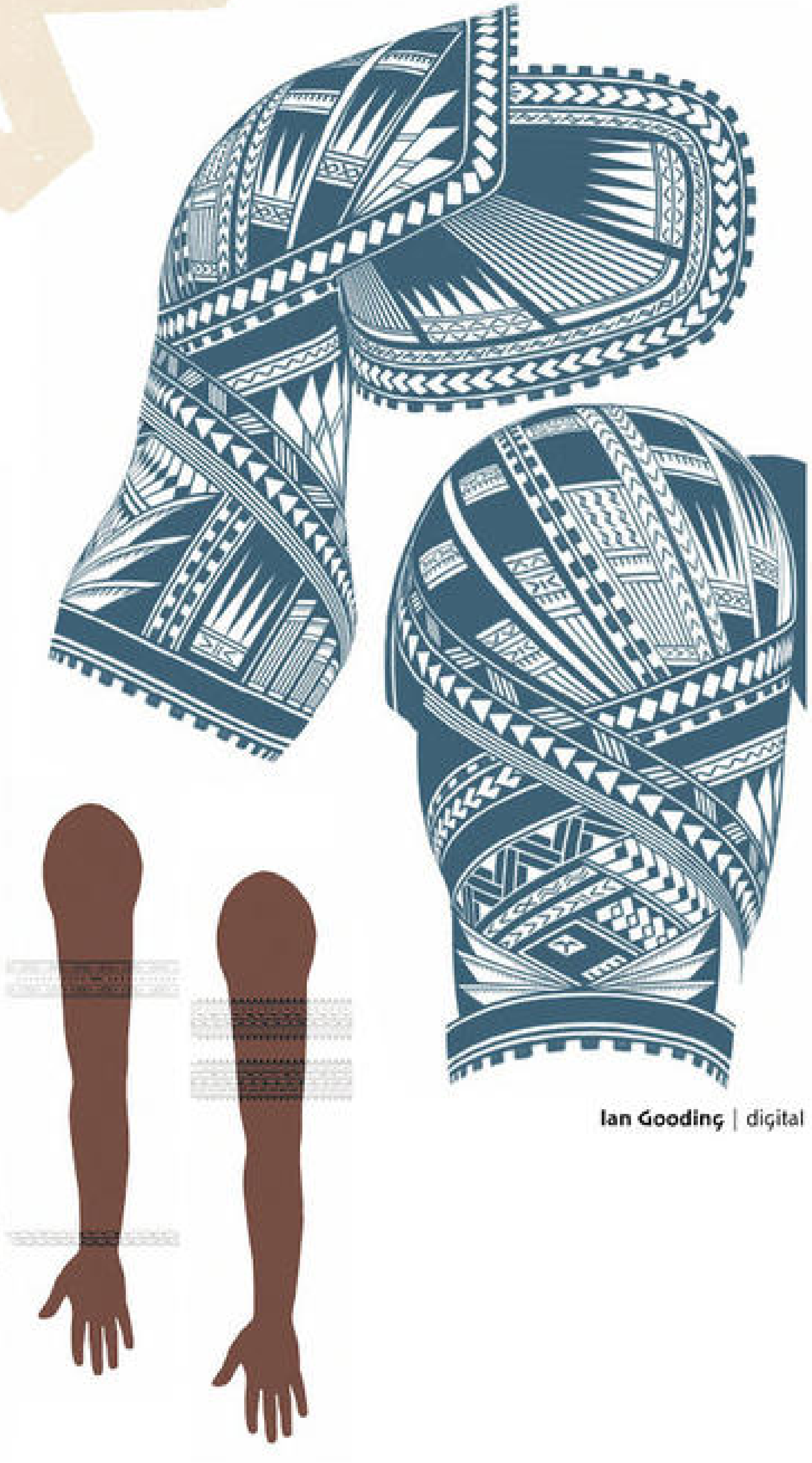
Neysa Bové | digital

TATTOOS

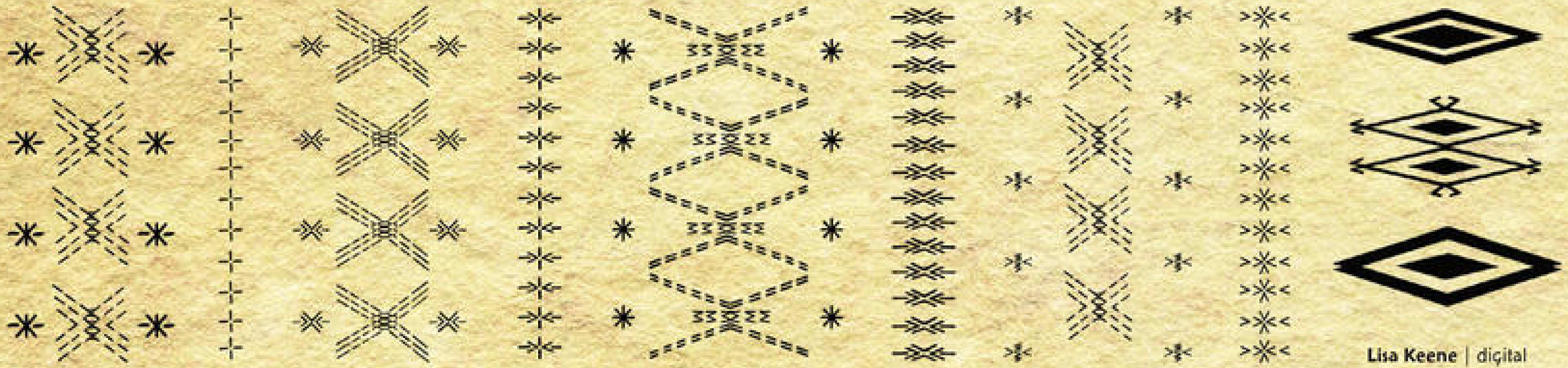
Researching current and historical tattoos, I observed which symbols seemed to be the most prevalent and found ways to mix and match the designs to make the characters unique, while trying to ensure we stayed true to their meanings.
— Lisa Keene, visual development artist



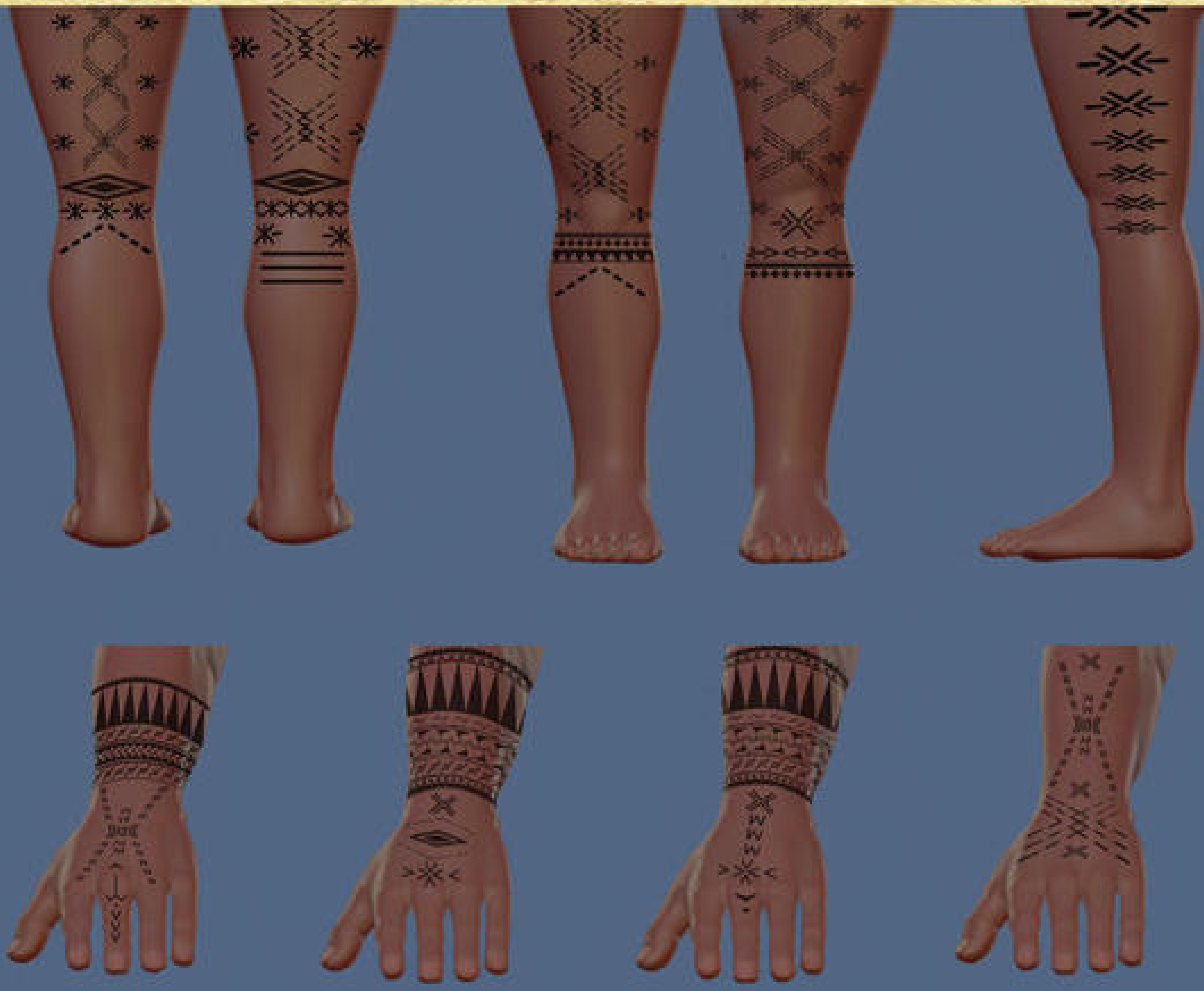
Leighton Hickman | digital



Ian Gooding | digital



Lisa Keene | digital

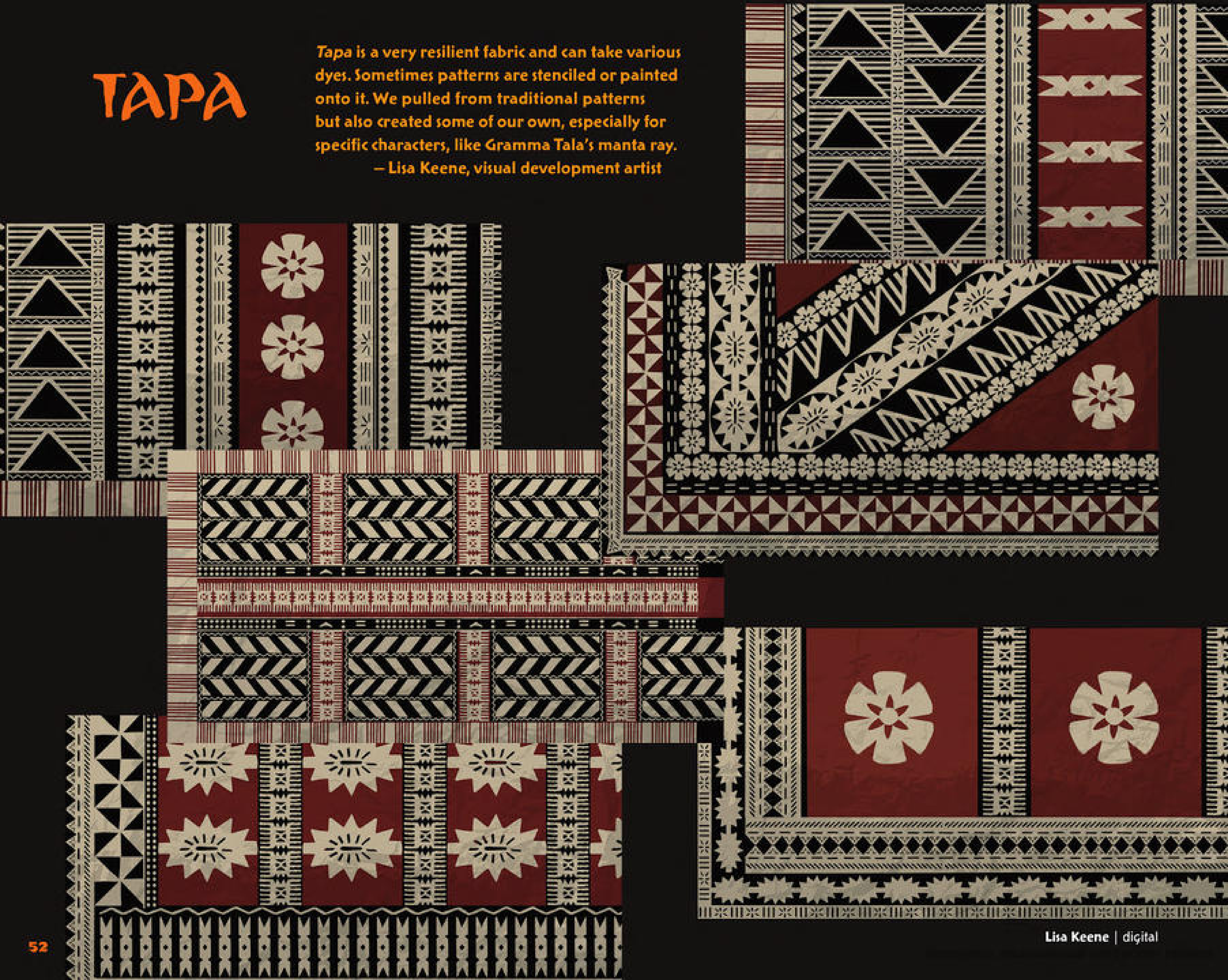


Lisa Keene | digital drawover

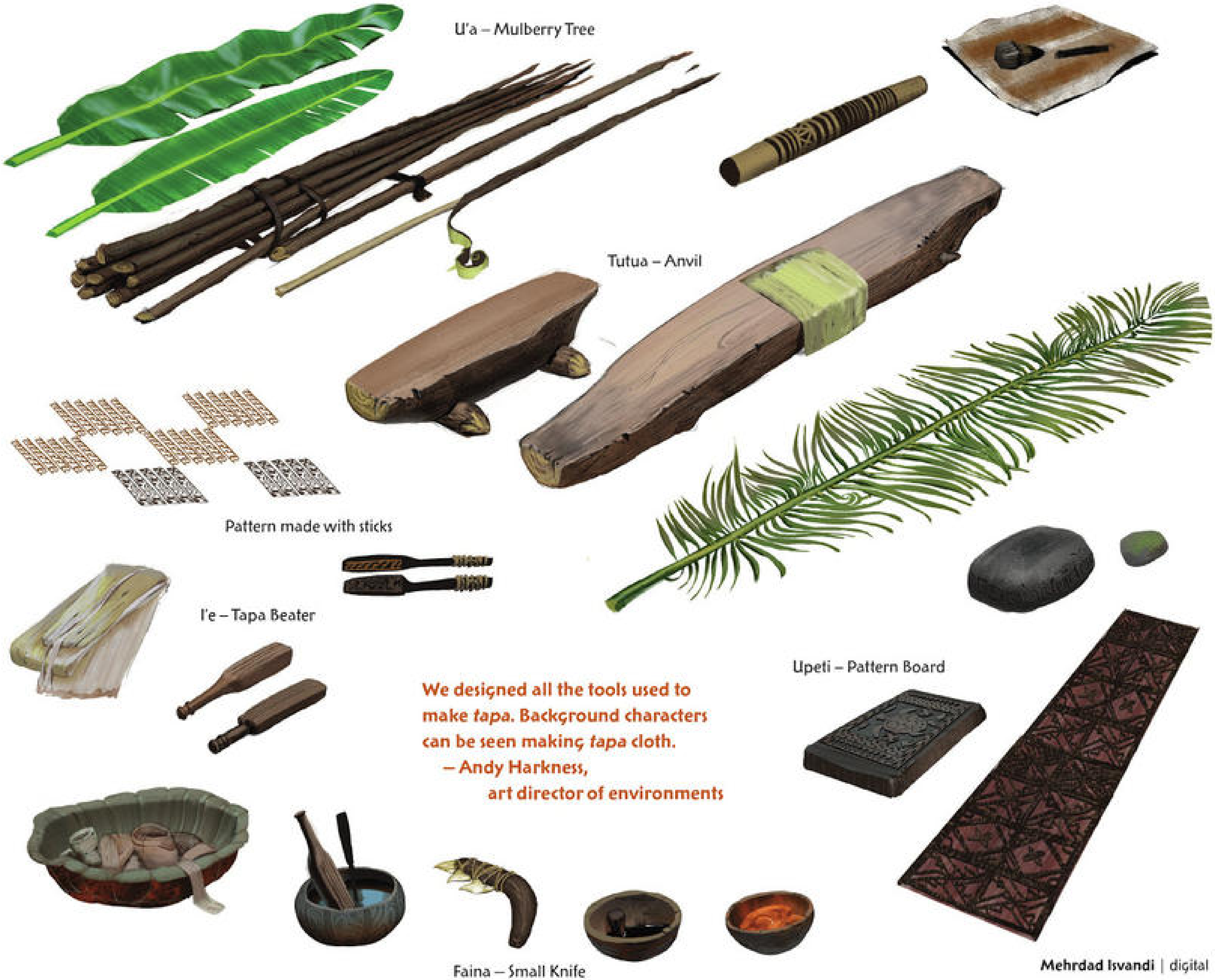
The women's tattoos are often very feminine, delicate, and lacy, almost like they're wearing lace stockings.
— Lisa Keene,
visual development artist

TAPA

Tapa is a very resilient fabric and can take various dyes. Sometimes patterns are stenciled or painted onto it. We pulled from traditional patterns but also created some of our own, especially for specific characters, like Gramma Tala's manta ray.
— Lisa Keene, visual development artist



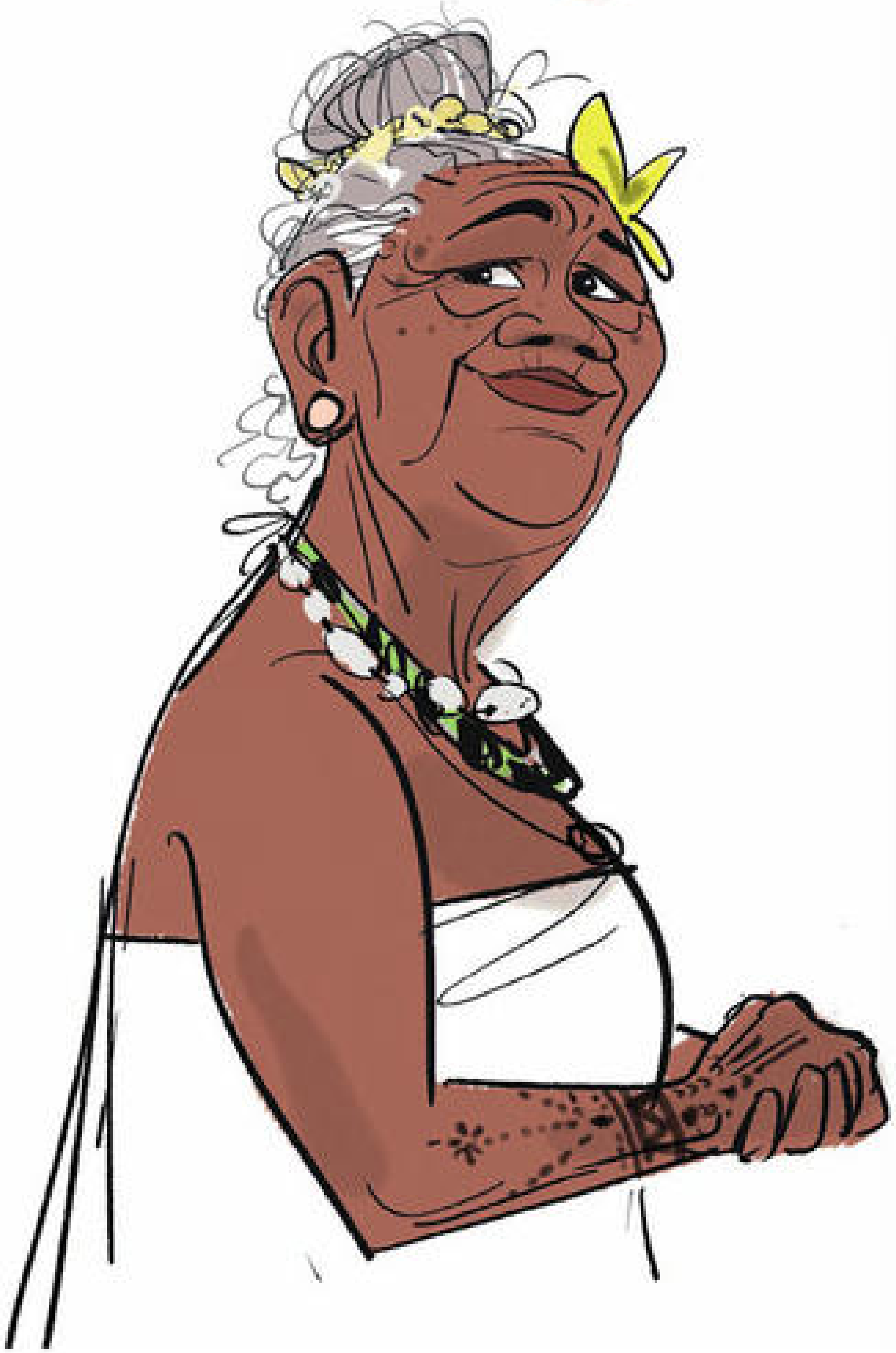
Lisa Keene | digital



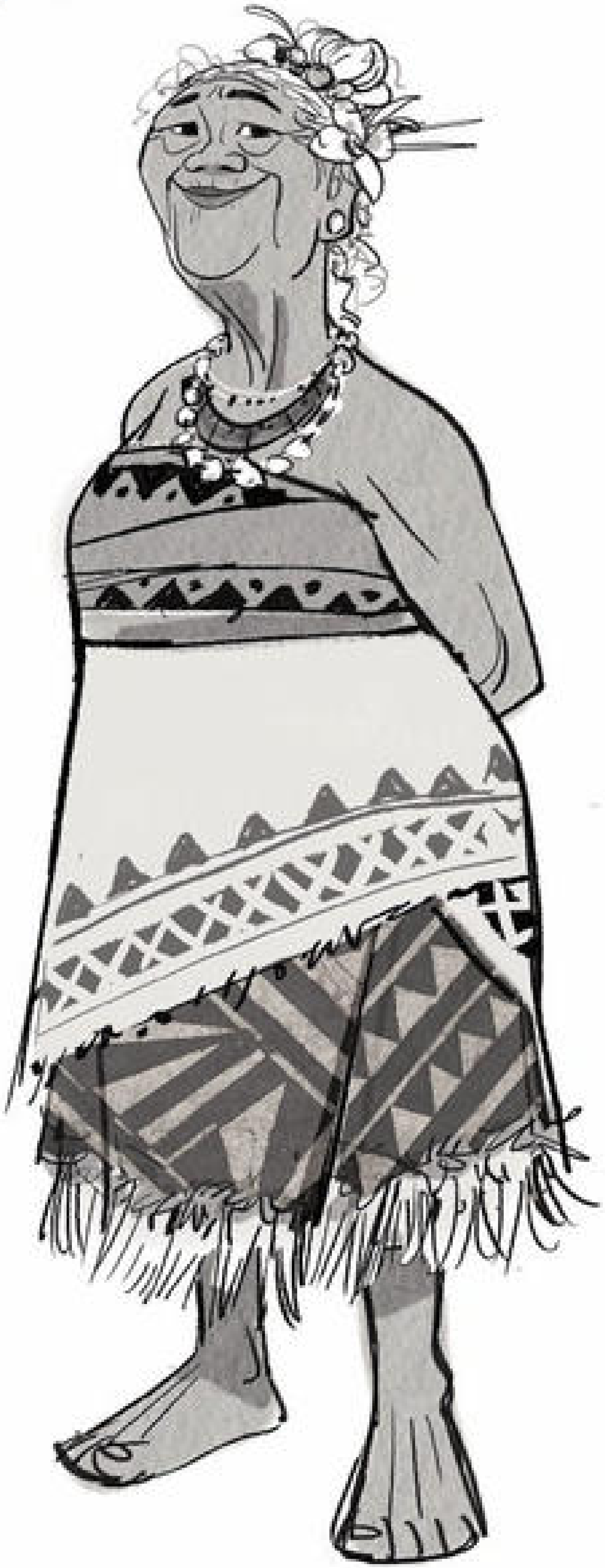
We designed all the tools used to make *tapa*. Background characters can be seen making *tapa* cloth.
— Andy Harkness,
art director of environments

Mehrdad Isvandi | digital

GRAMMA TALA



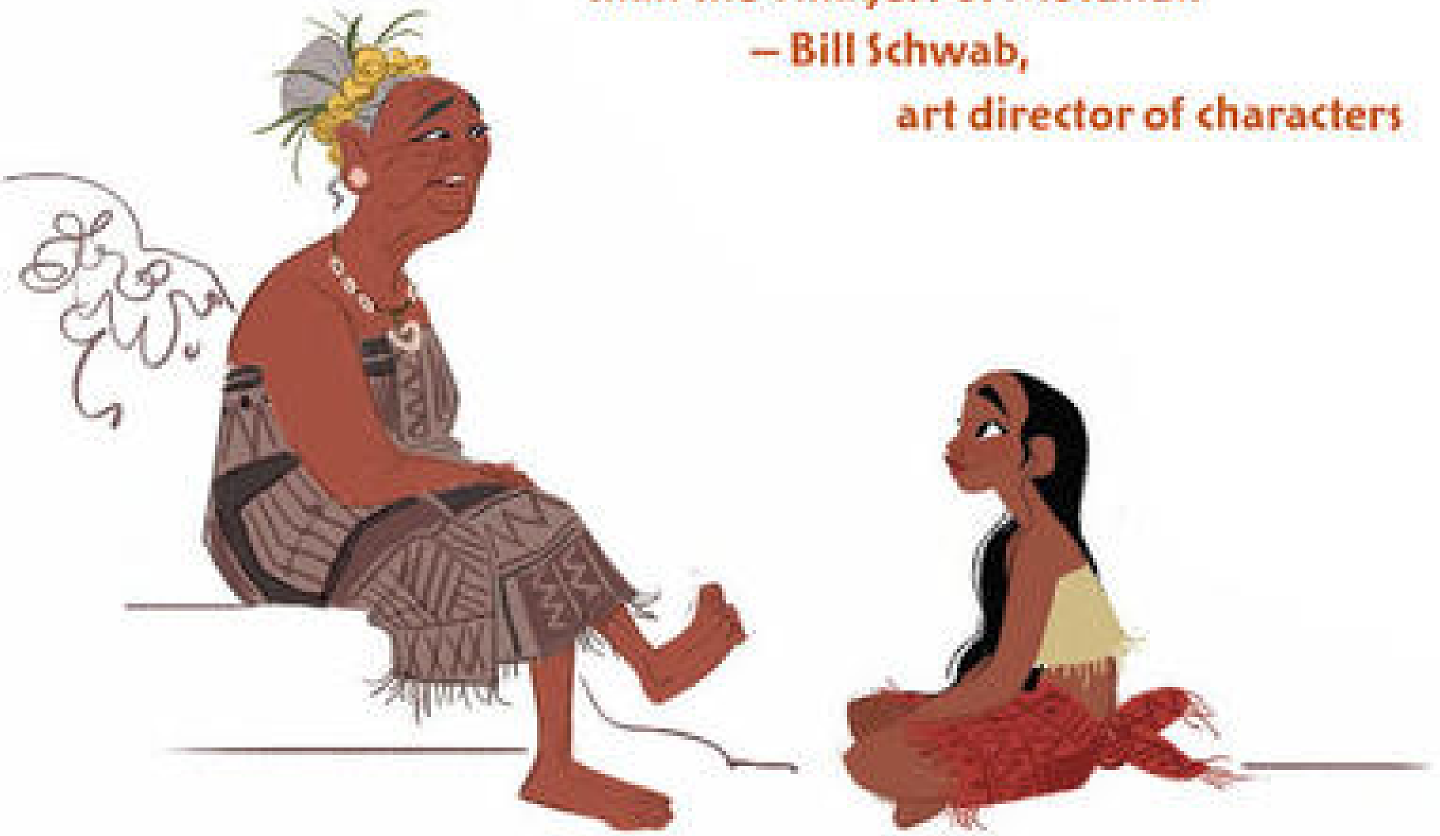
Jin Kim | digital



Jin Kim | digital

Gramma Tala has a sense of the voyagers in her. She's a bit more quirky and colorful than the villagers of Motunui.

—Bill Schwab,
art director of characters

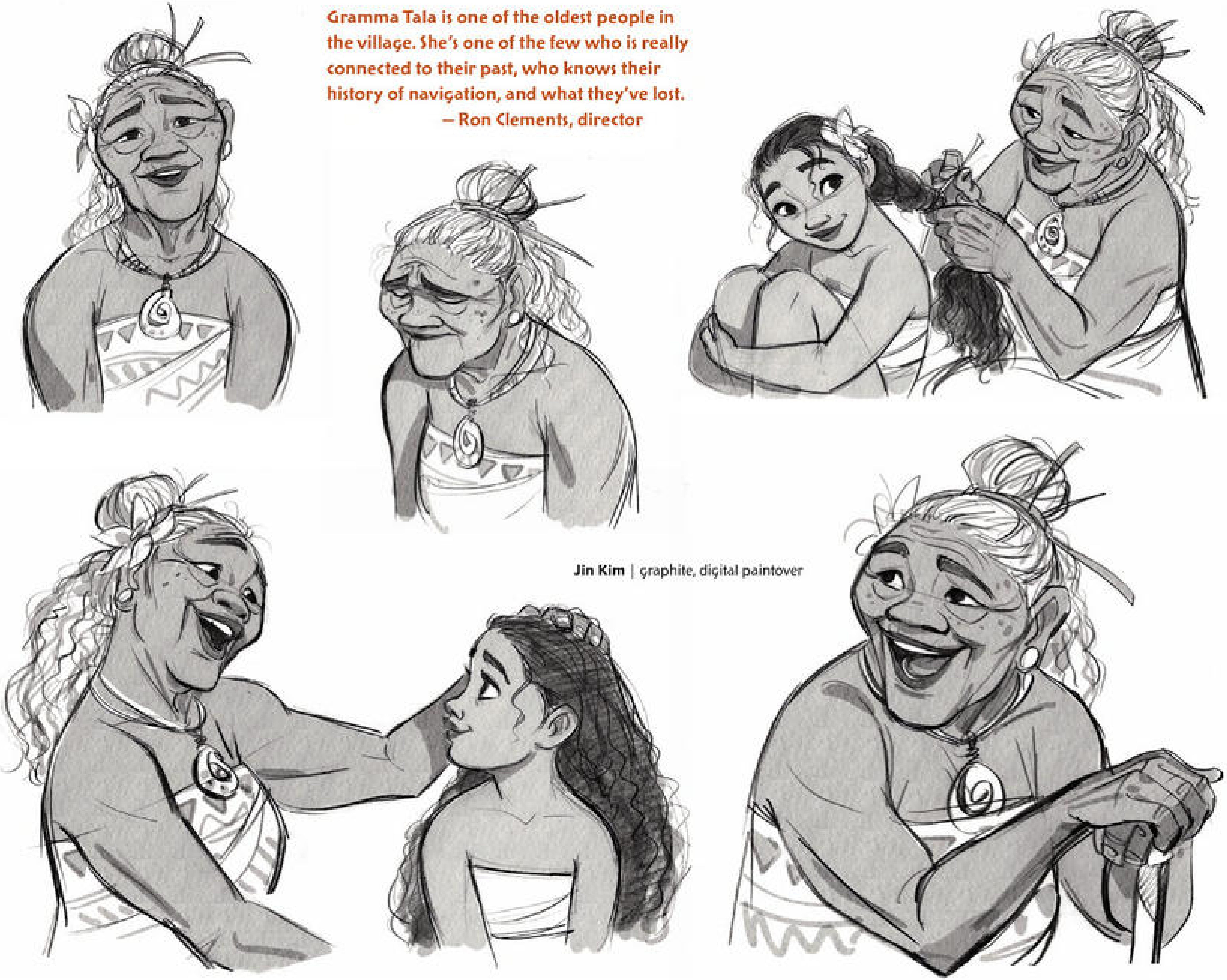


Bill Schwab | digital

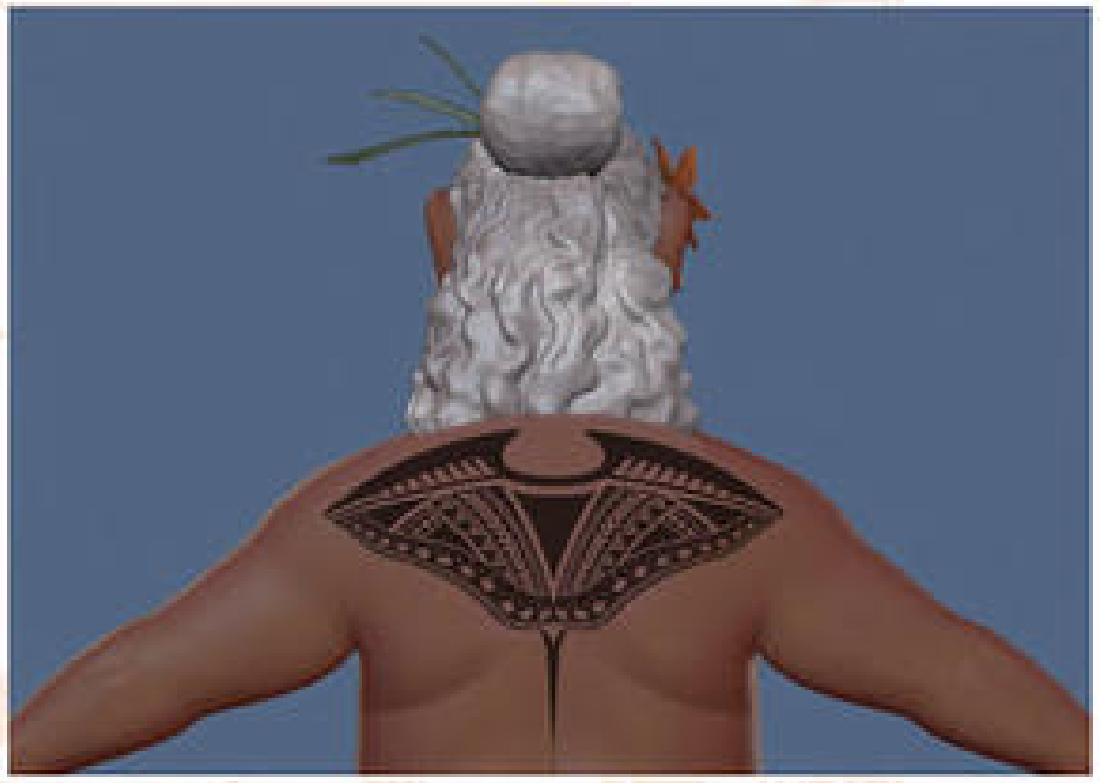
Bill Schwab | digital

Bill Schwab | digital

Gramma Tala is one of the oldest people in the village. She's one of the few who is really connected to their past, who knows their history of navigation, and what they've lost.
— Ron Clements, director

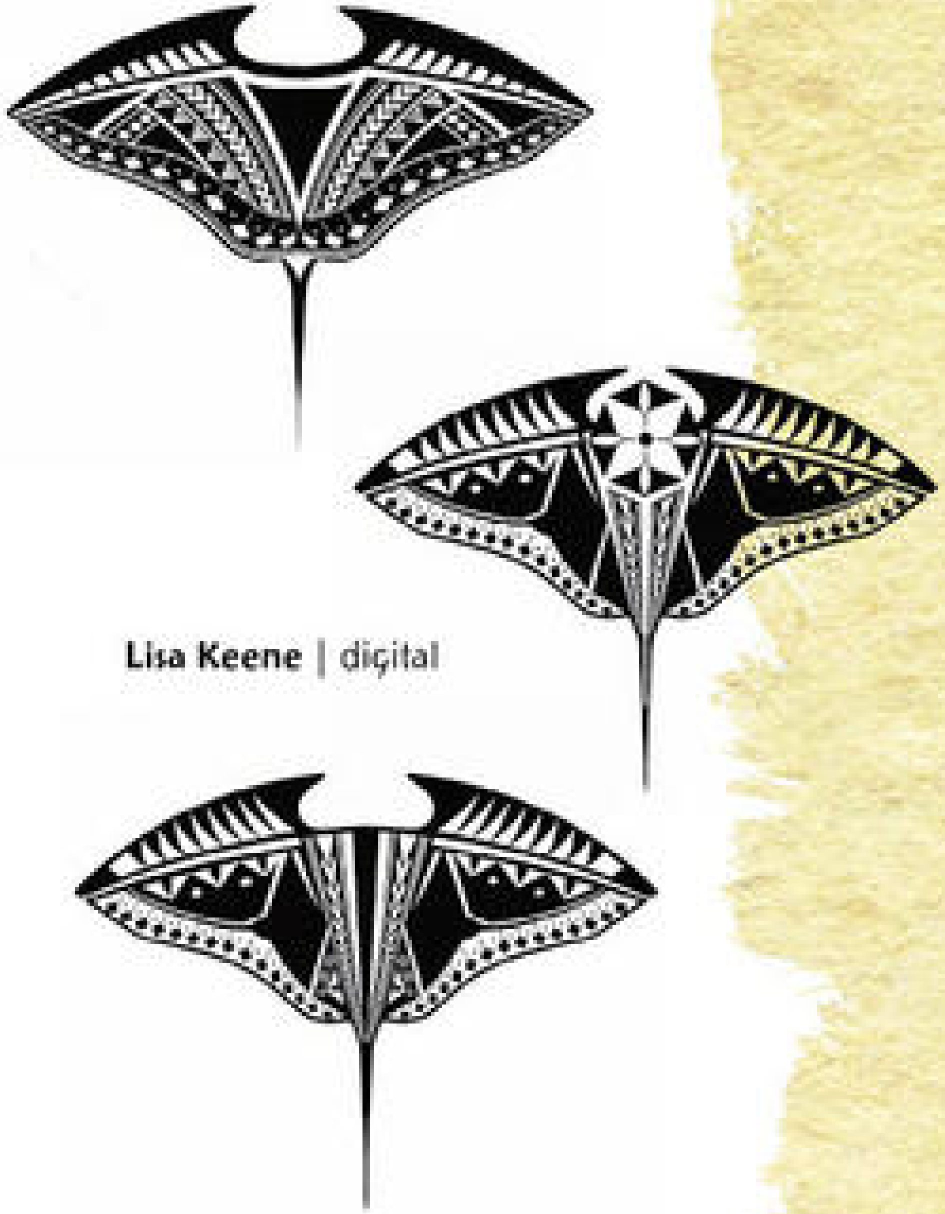


Jin Kim | graphite, digital paintover

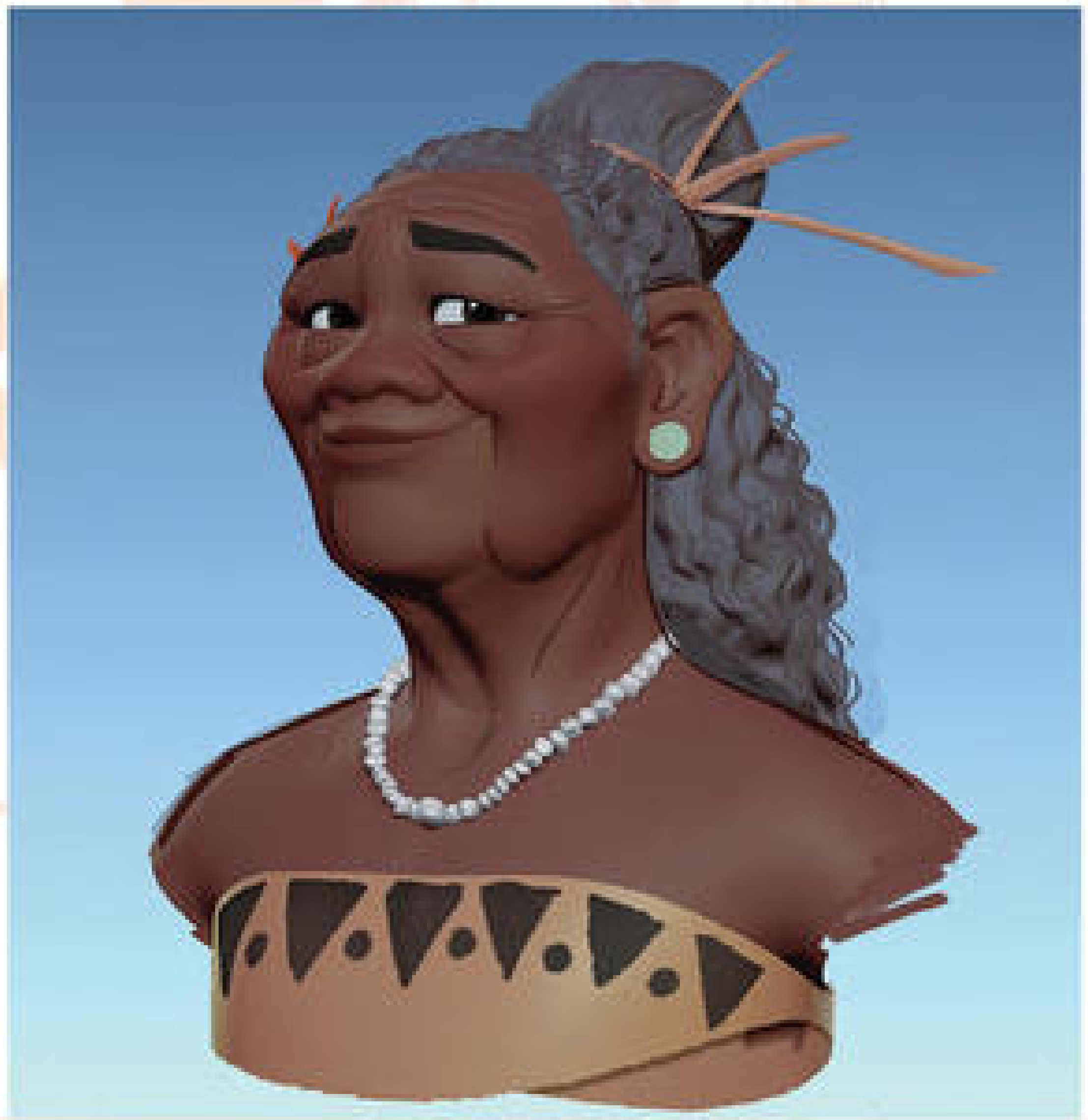


Lisa Keene | digital drawover

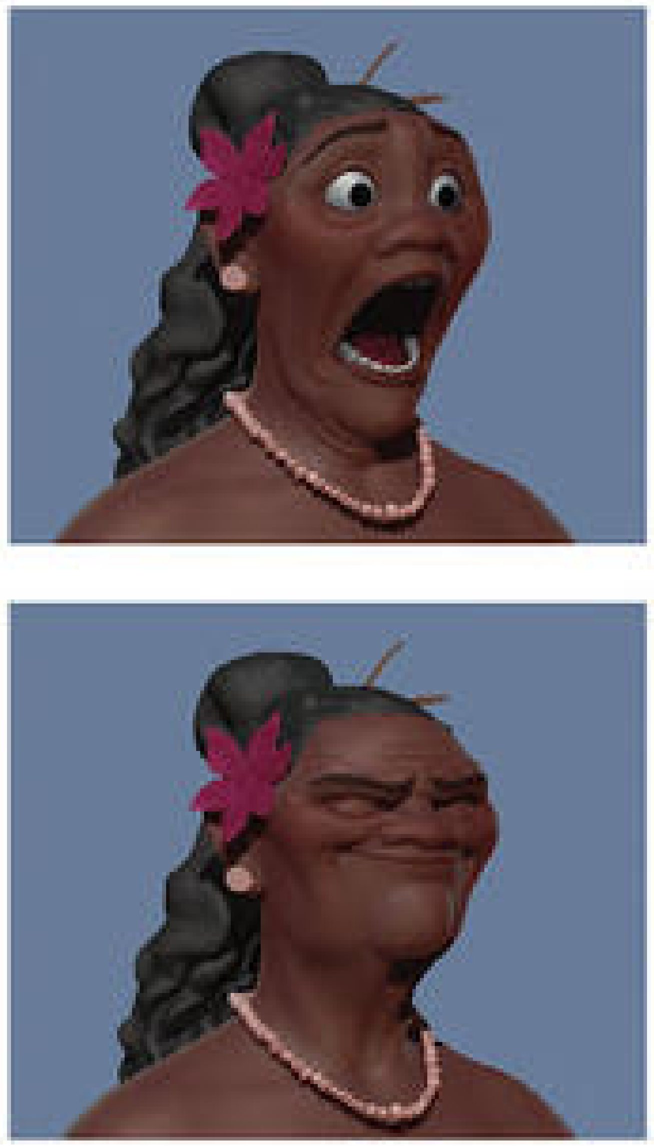
Gramma Tala's animal totem is a manta ray, so she has a manta ray tattoo on her back. They appear in her weaving and the prints on her clothing.
— Ian Gooding, production designer



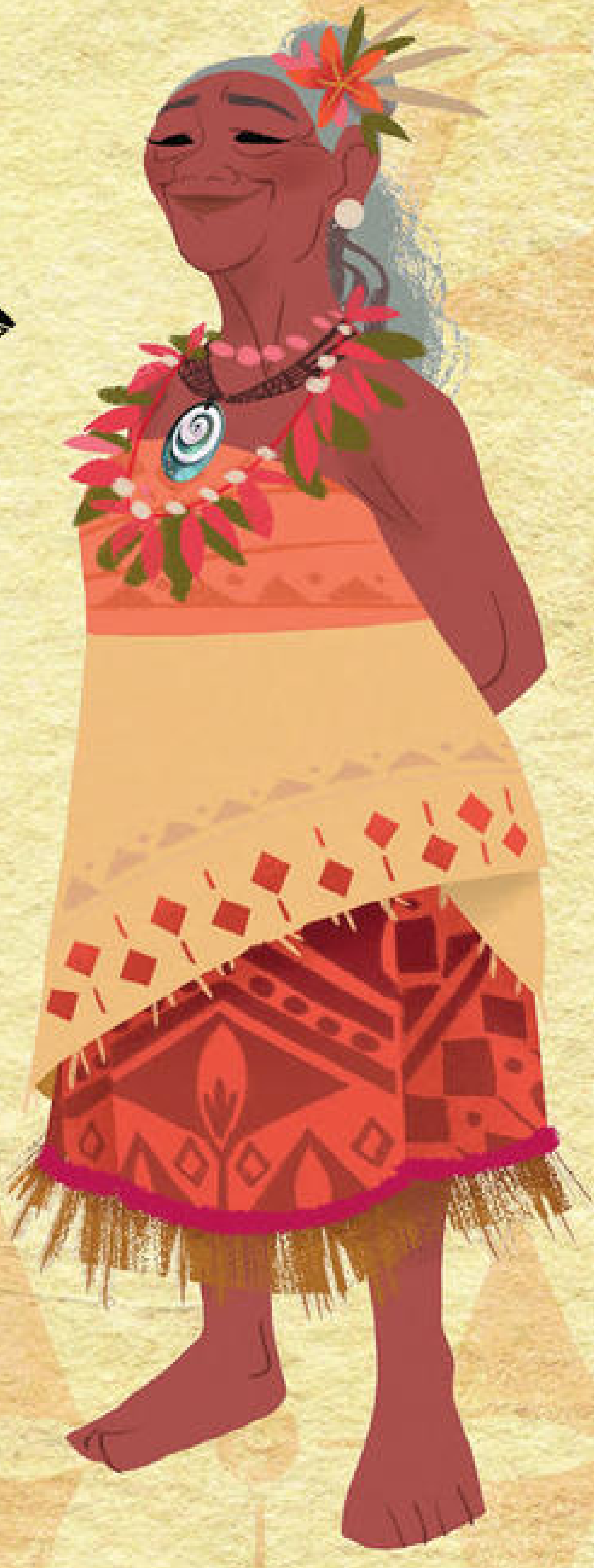
Lisa Keene | digital



Chad Stubblefield | digital sculpt

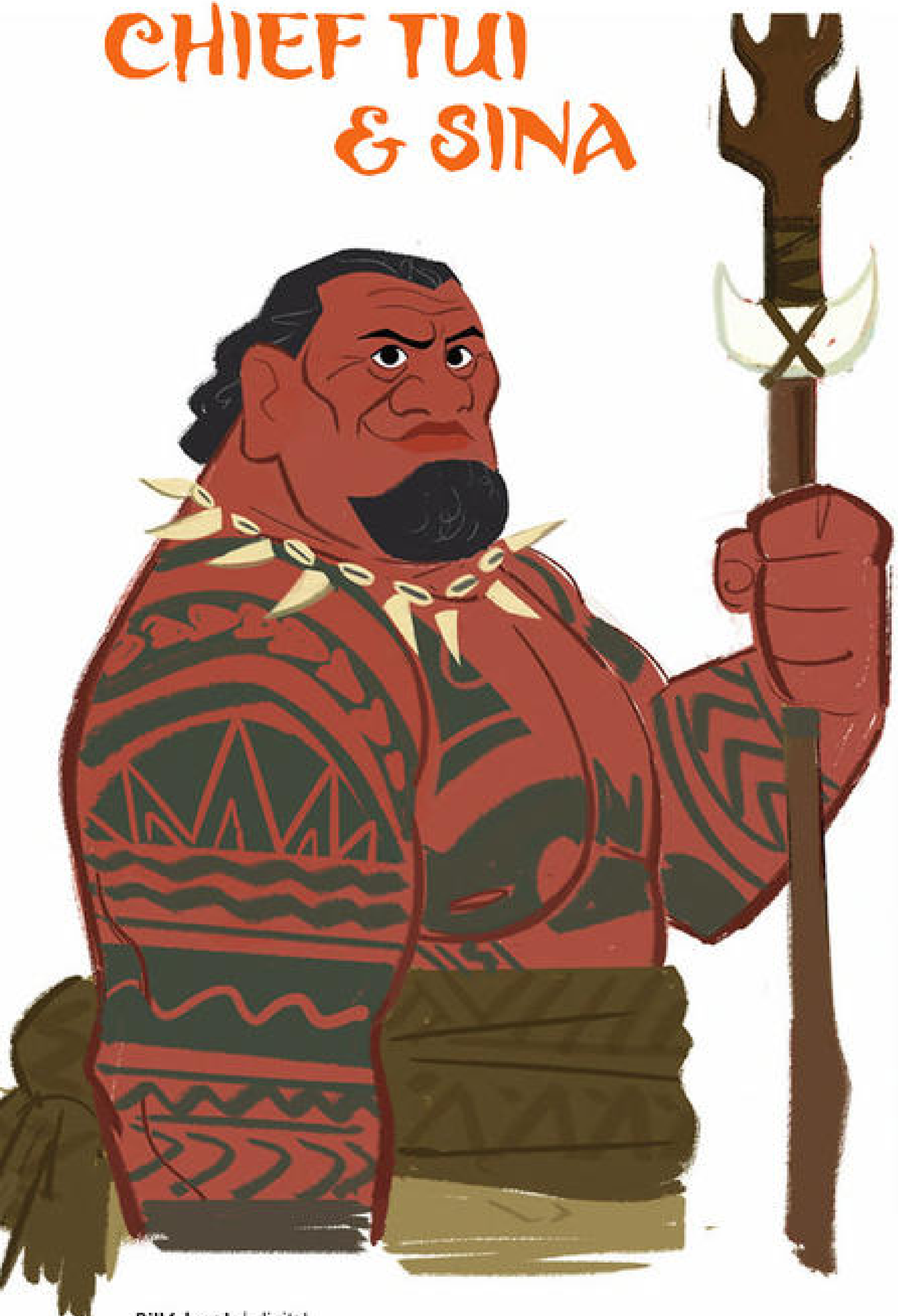


Chad Stubblefield | digital sculpt

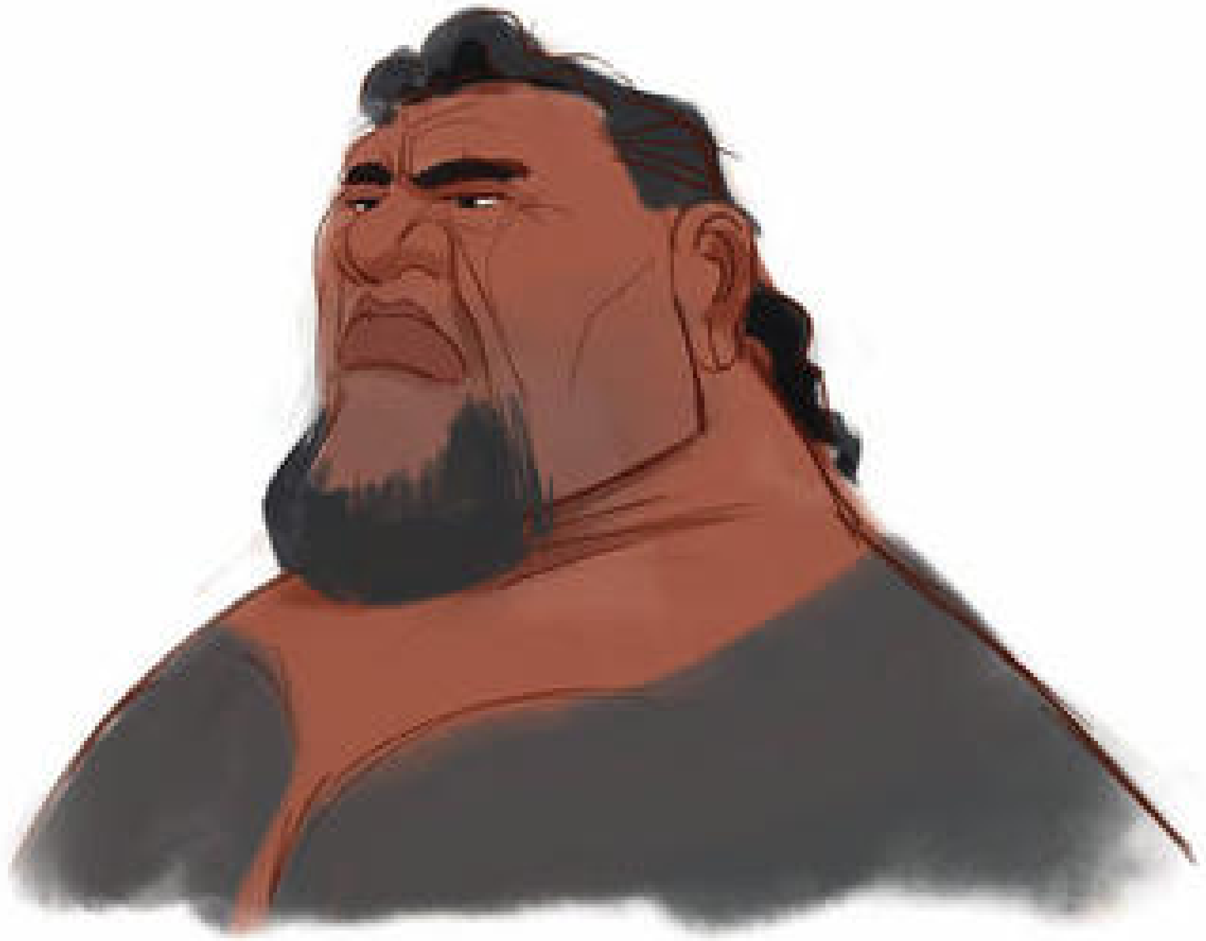


Brittney Lee | digital

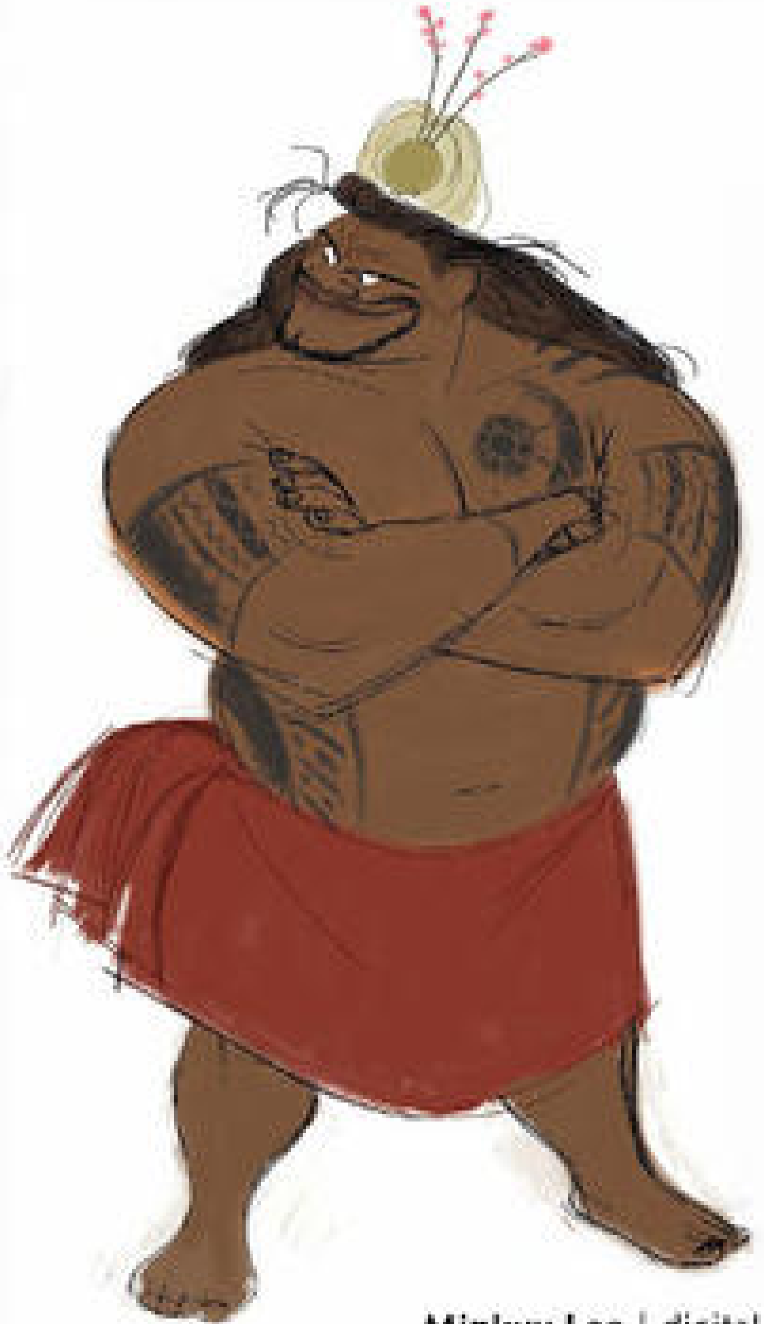
CHIEF TUI & SINA



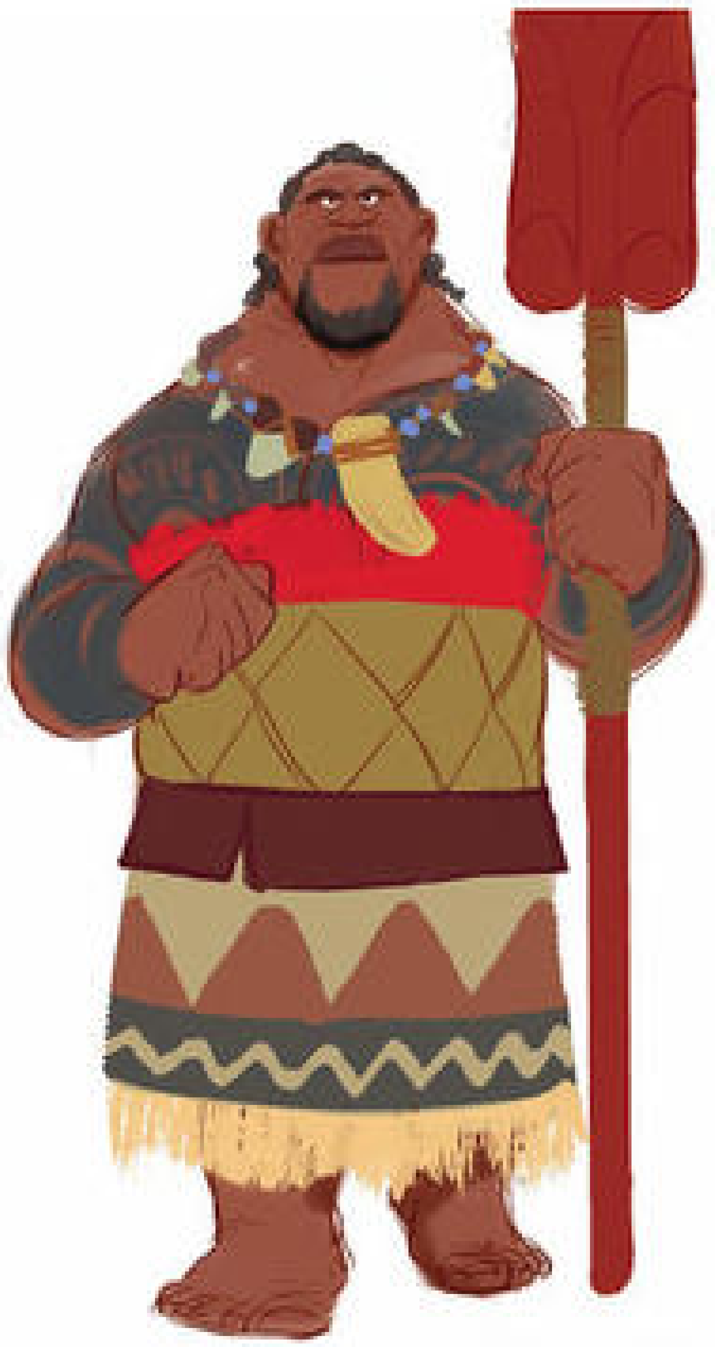
Bill Schwab | digital



Nick Orsi | digital



Minkyu Lee | digital



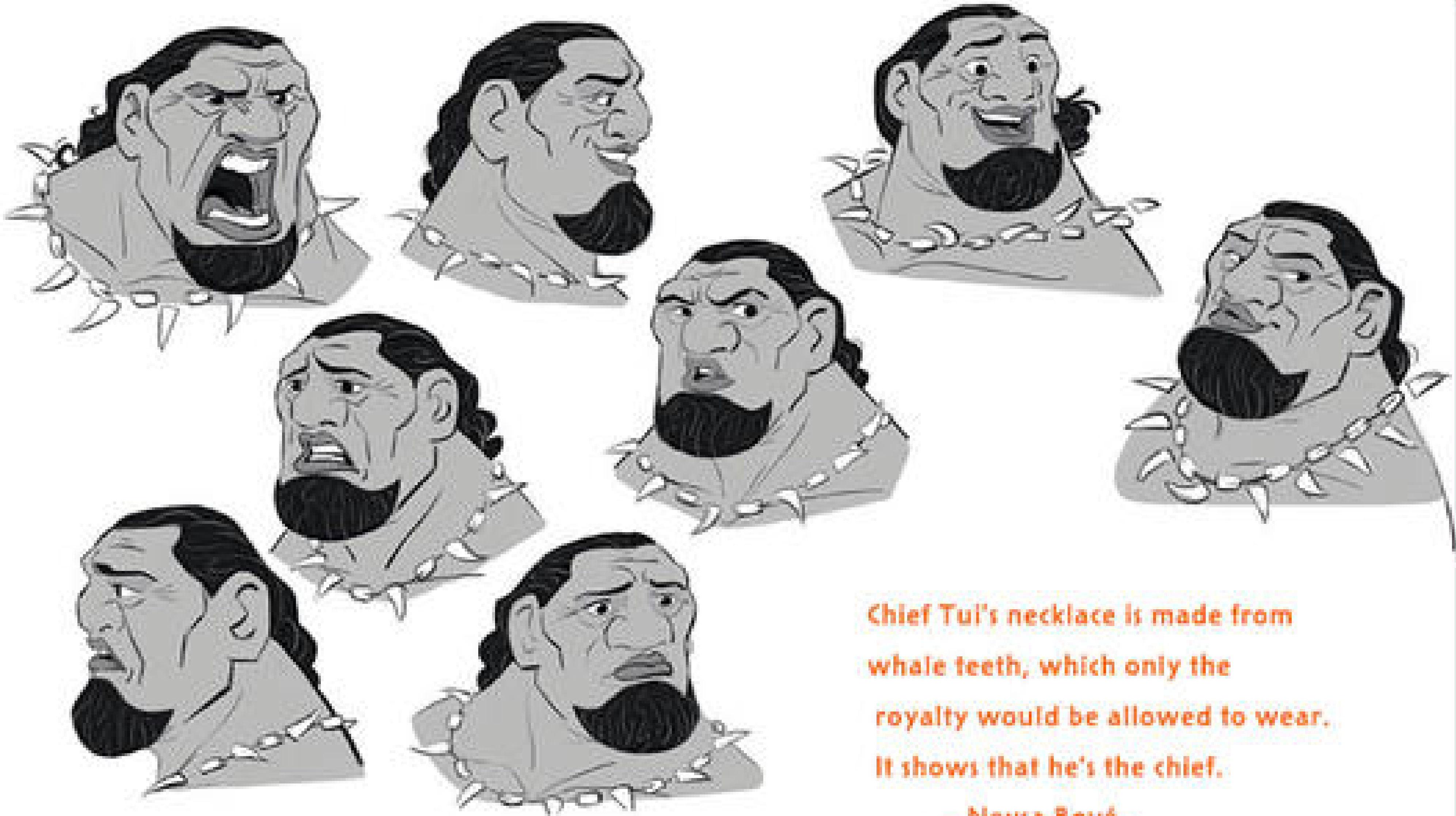
Nick Orsi | digital

Nick Orsi | digital

Chief Tui is Moana's father. He's a tough guy, running the island, carrying the weight of his people. We had to find the right mixture of kindness and sternness in him.
— Bill Schwab,
art director of characters

Neysa Bové | digital

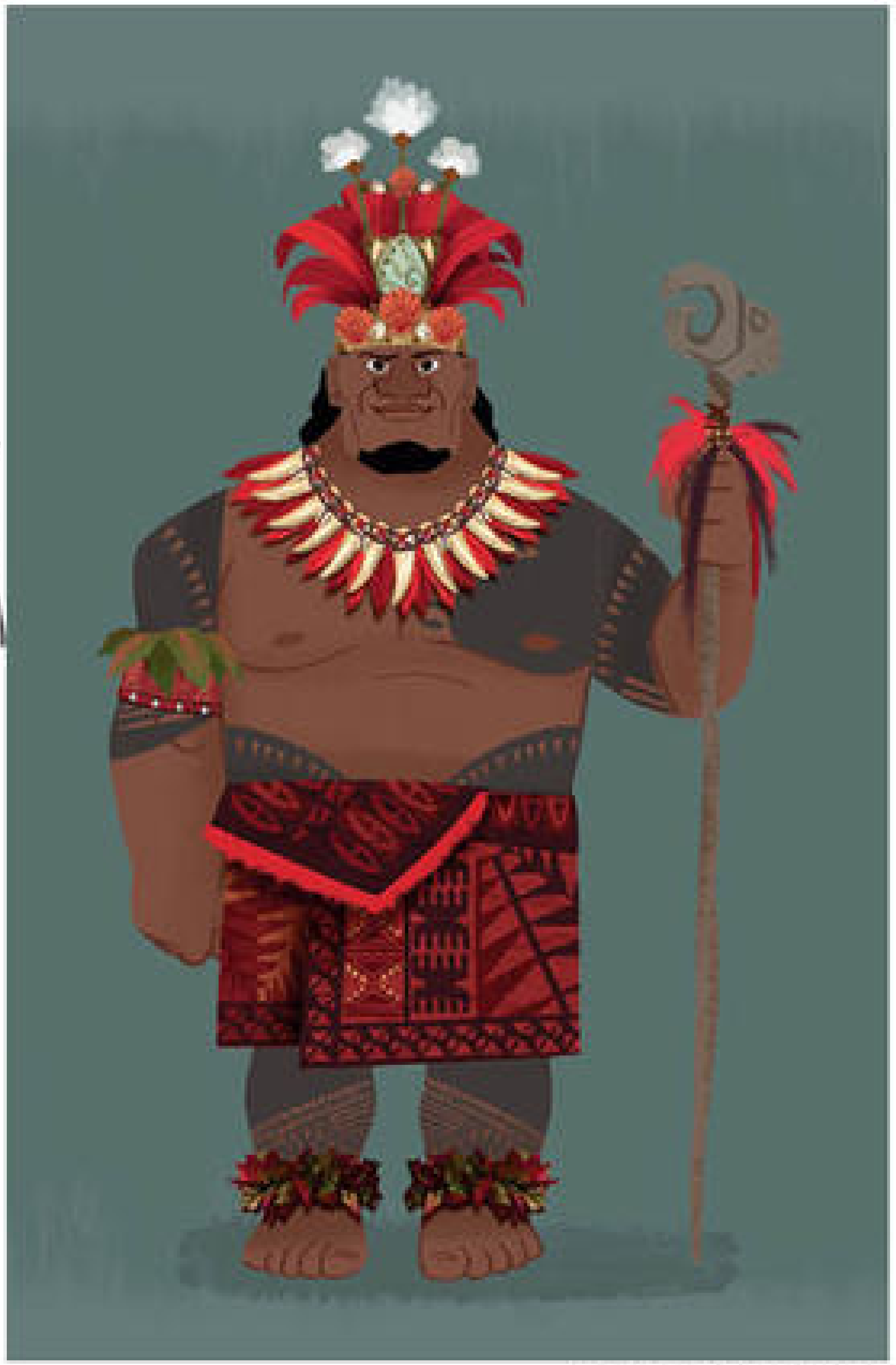
Brittney Lee | digital



Borja Montoro | digital

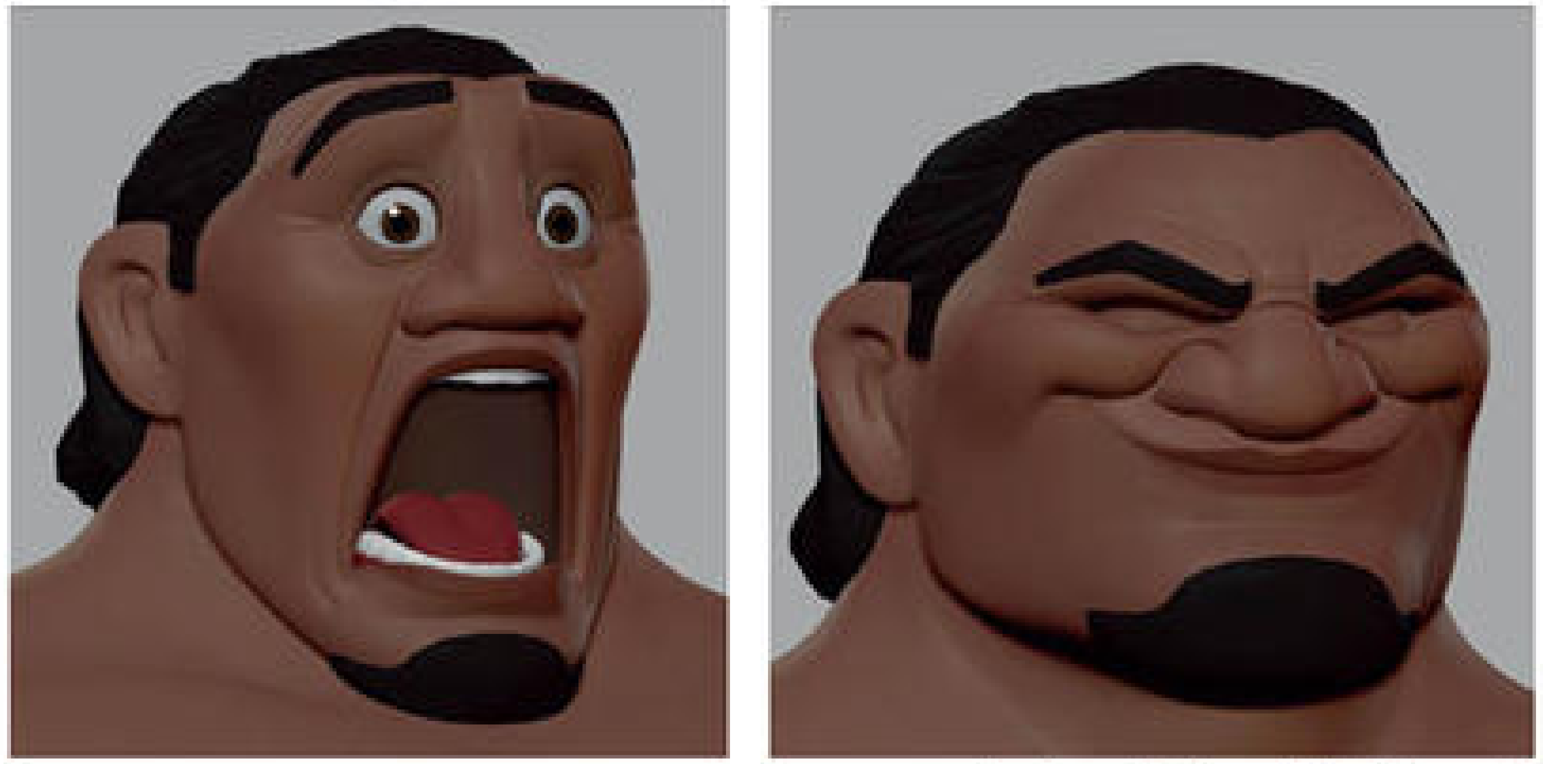
Chief Tui's necklace is made from whale teeth, which only the royalty would be allowed to wear. It shows that he's the chief.

— Neysa Bové,
visual development artist



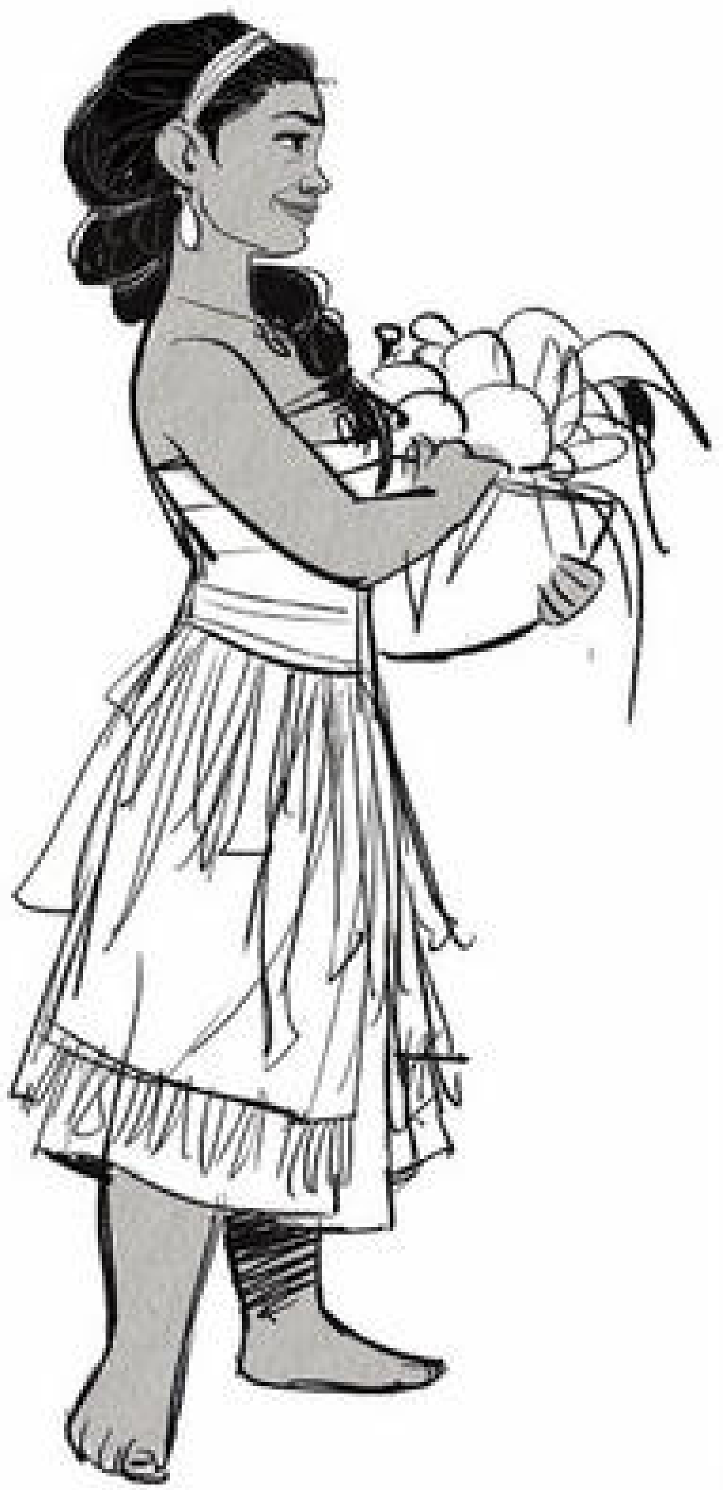
Neysa Bové | digital

Borja Montoro | digital

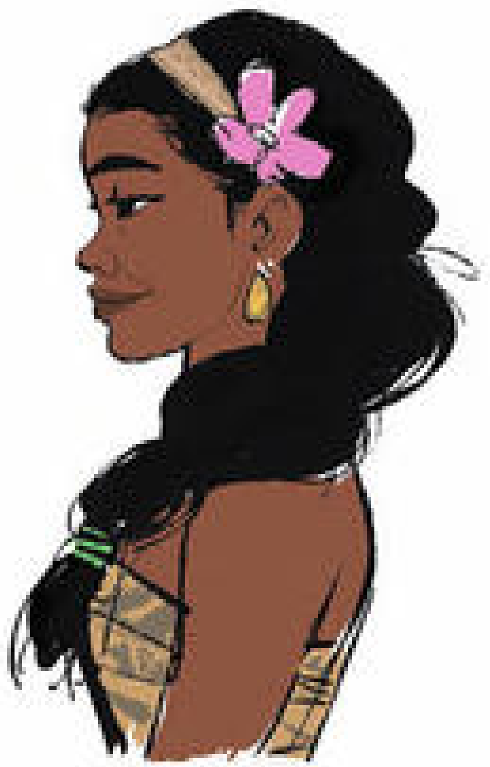


Borja Montoro | digital

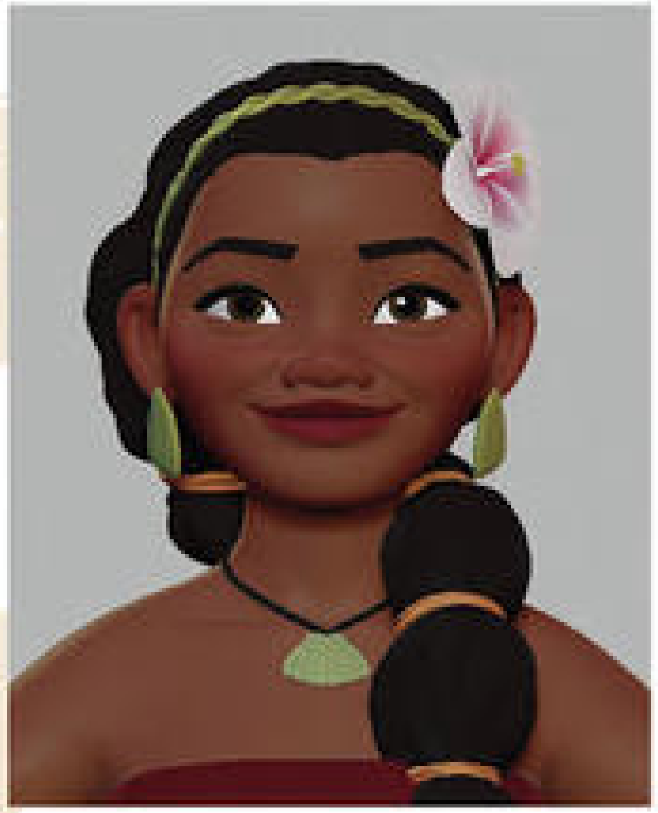
Zachary Petroc | digital sculpt



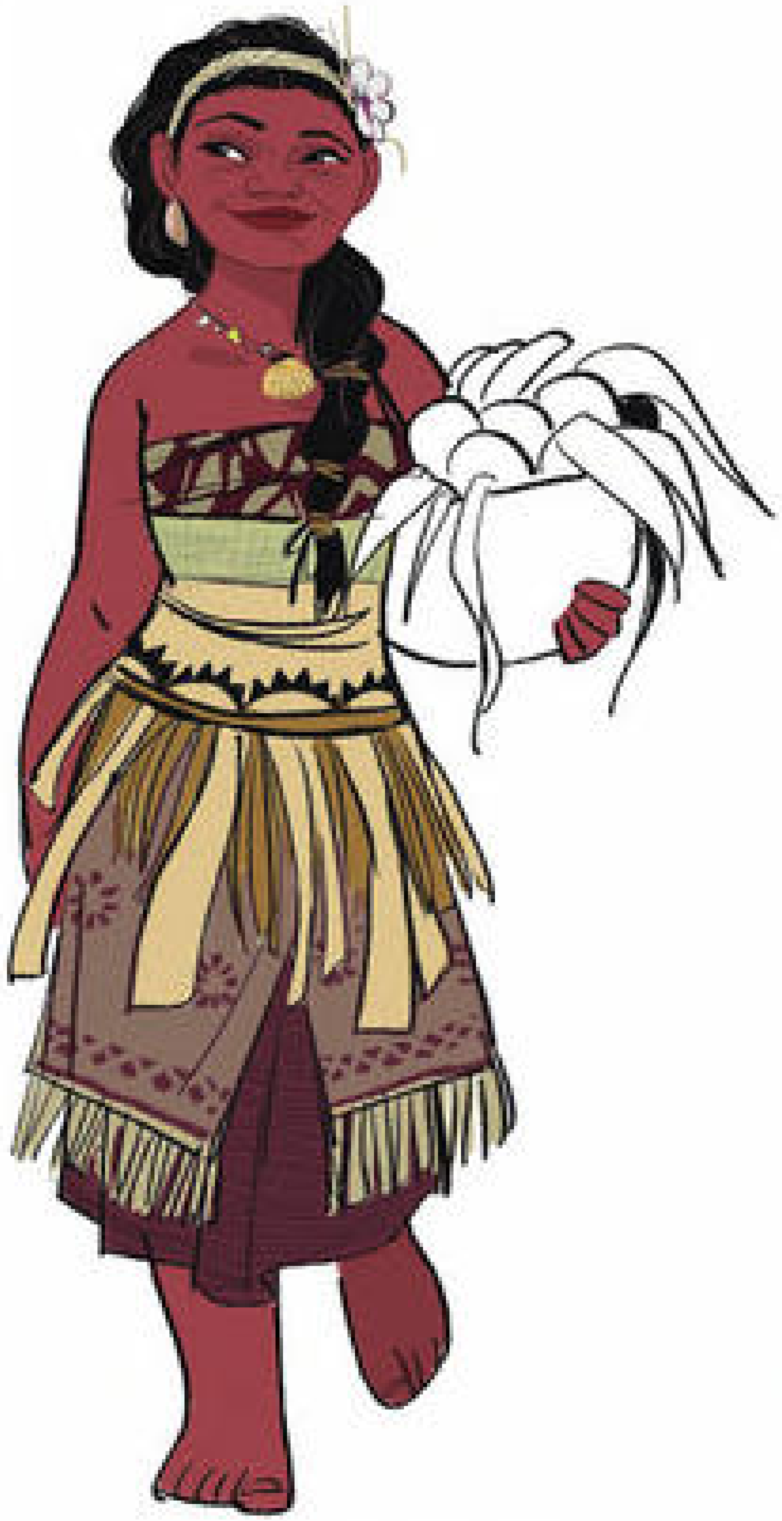
Jin Kim | digital



Jin Kim | digital

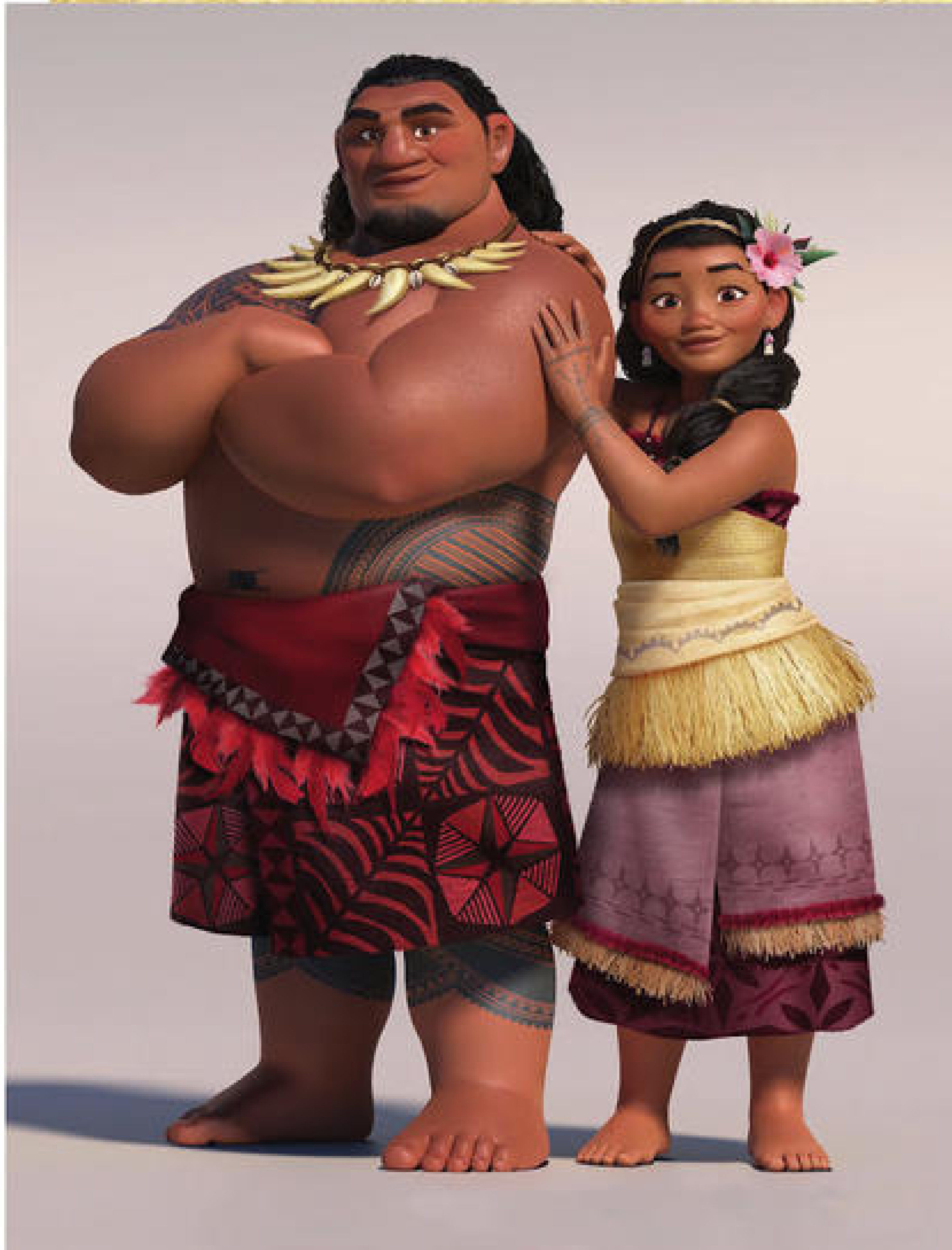


SuZan Kim | digital sculpt



Jin Kim | digital

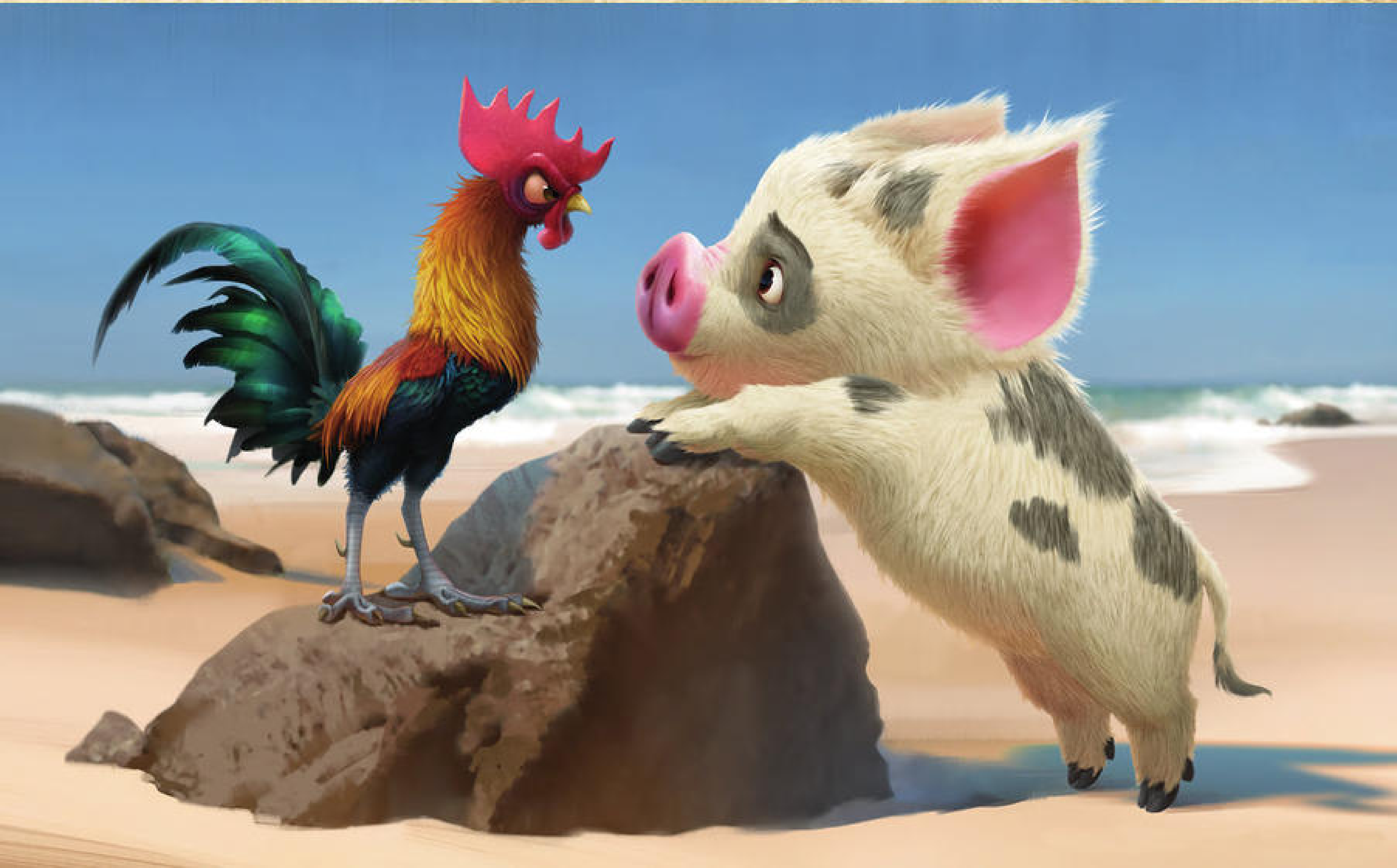
Sina is Moana's mother. She and Moana have the same hexagonal face with a strong chin, high cheekbones, and a prominent nose bridge. And Sina's eye shape and design is almost directly lifted from Moana to tie them together.
—Ian Gooding, production designer

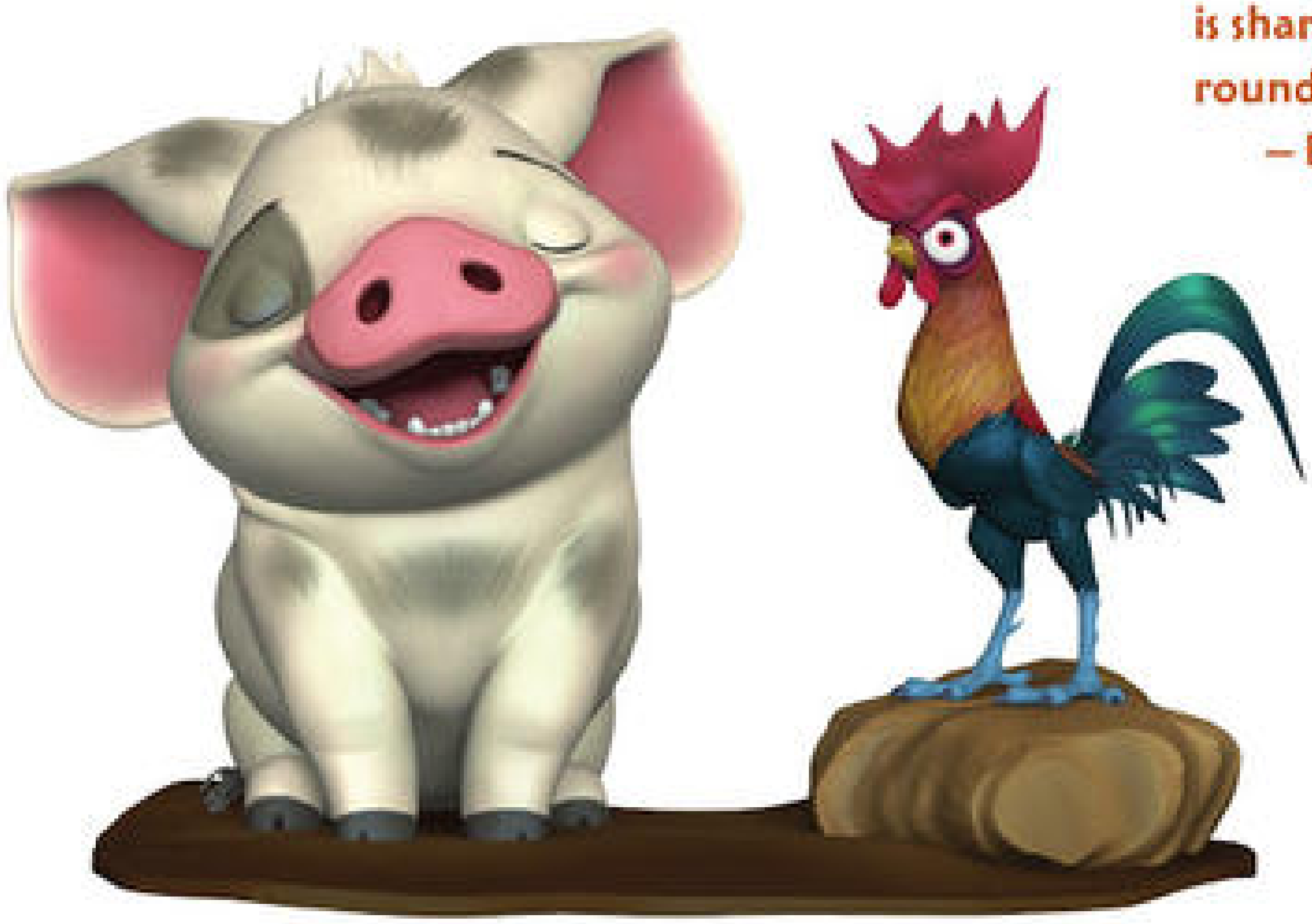


PUA & HEIHEI

> Wayfinders didn't take a lot with them on their voyages, mainly plants they knew they'd need and might not be already growing on new islands. But they always took pigs and chickens.
> — Ian Gooding, production designer

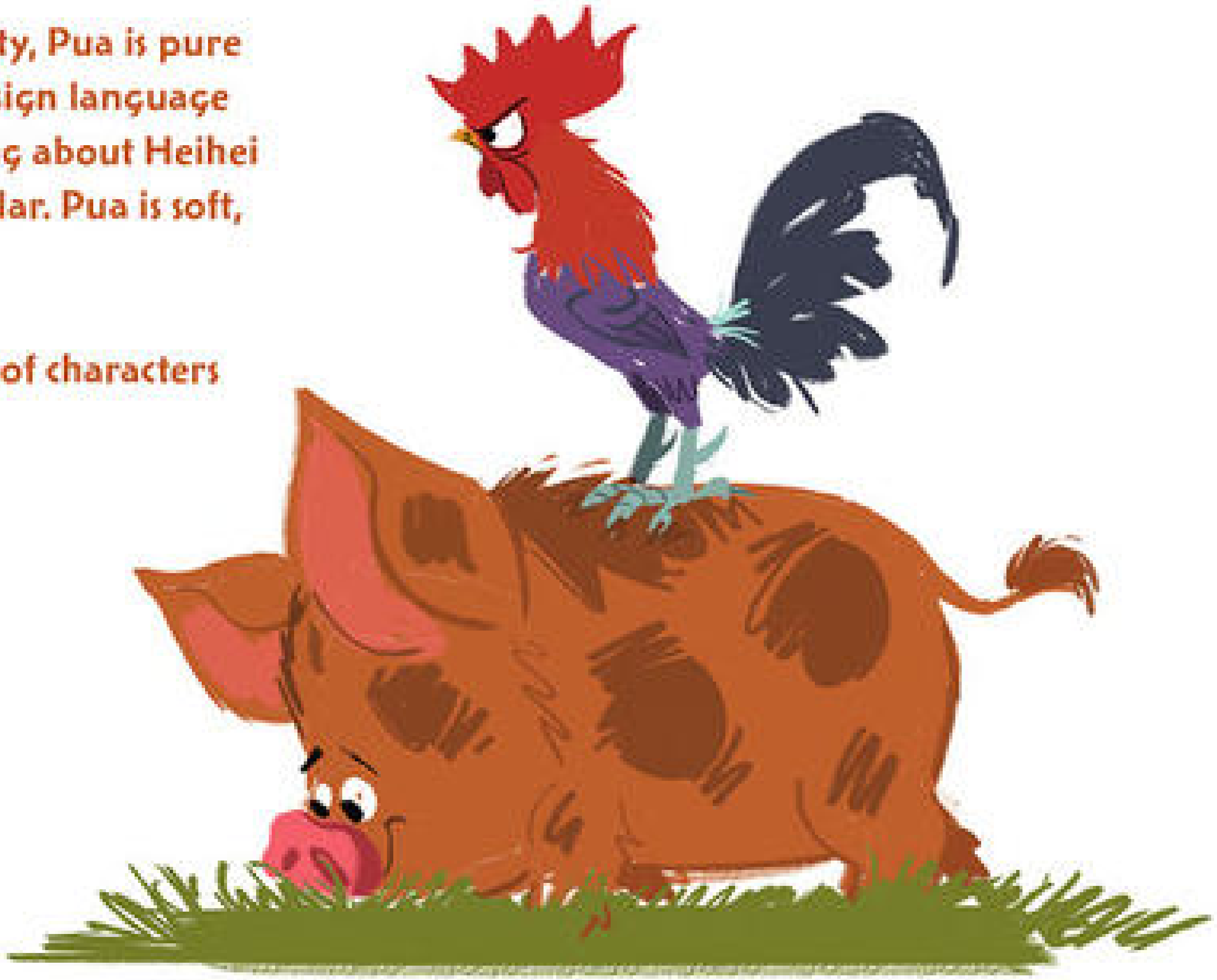
Leighton Hickman | digital



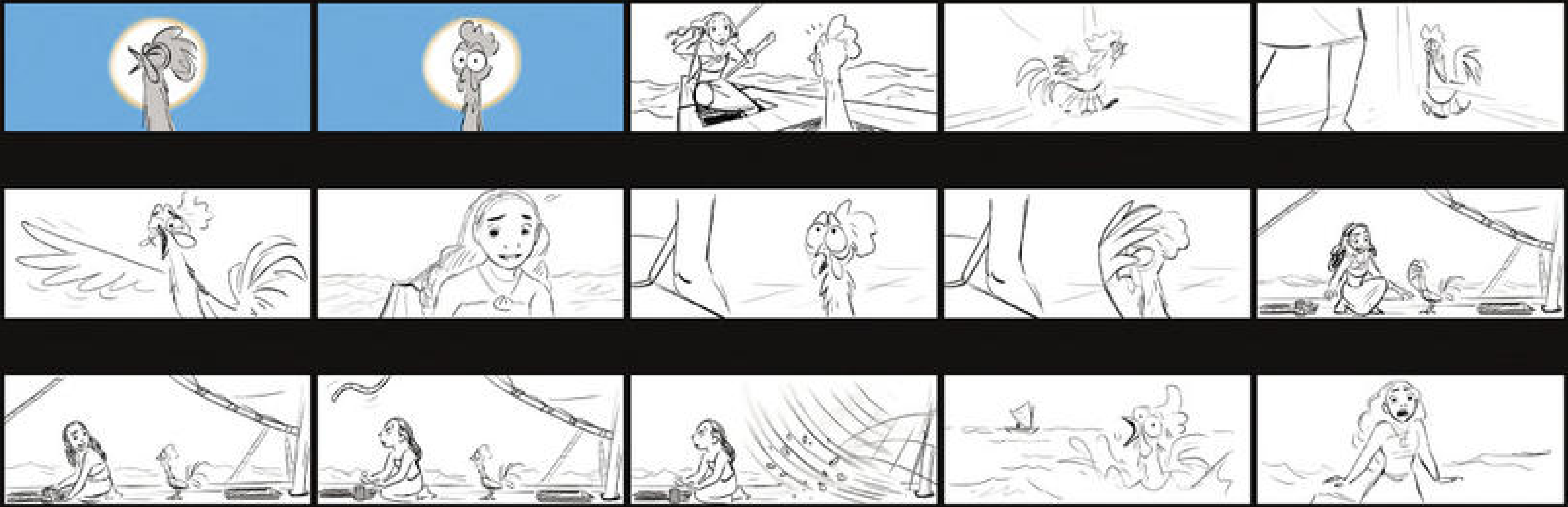


Alena Wooten-Tottle, SuZan Kim | digital sculpt

> Heihei is pure stupidity, Pua is pure sweetness. From a design language standpoint, everything about Heihei is sharp, pointy, angular. Pua is soft, round, and cuddly.
>
> – Bill Schwab,
> art director of characters

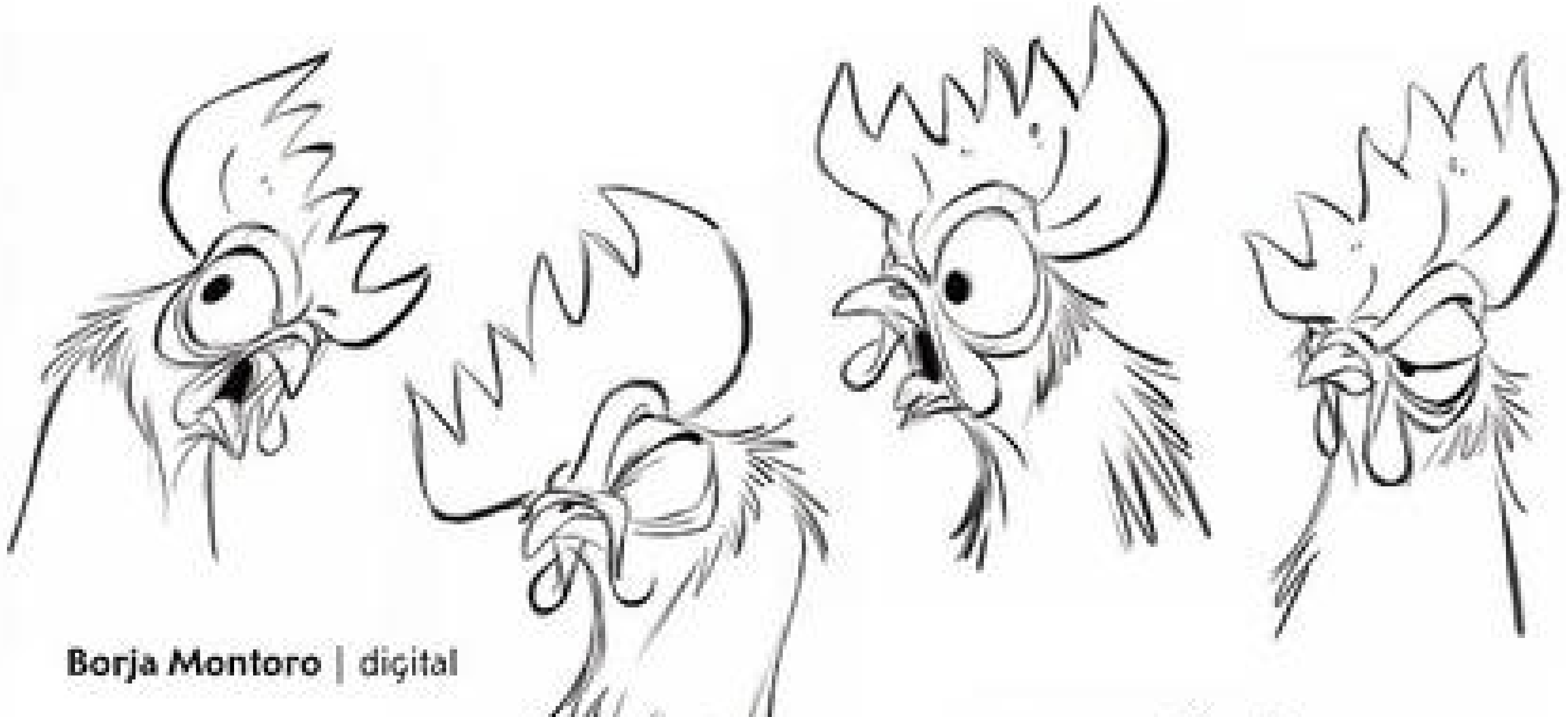


Bill Schwab | digital



storyboards | **Sunmee Joh** | digital

Dale Baer | graphite



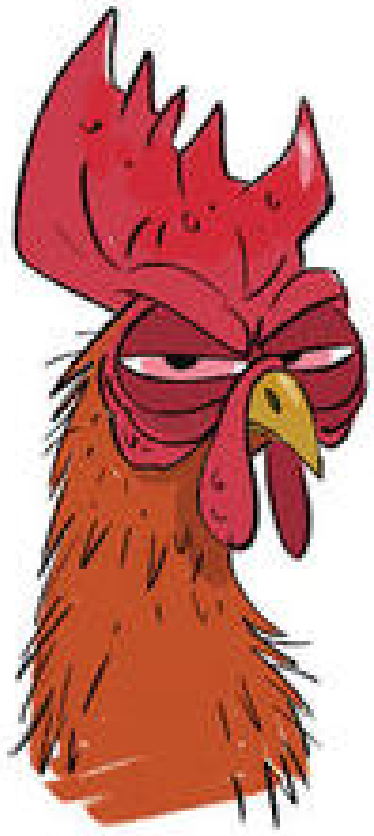
Borja Montoro | digital

Borja Montoro | digital

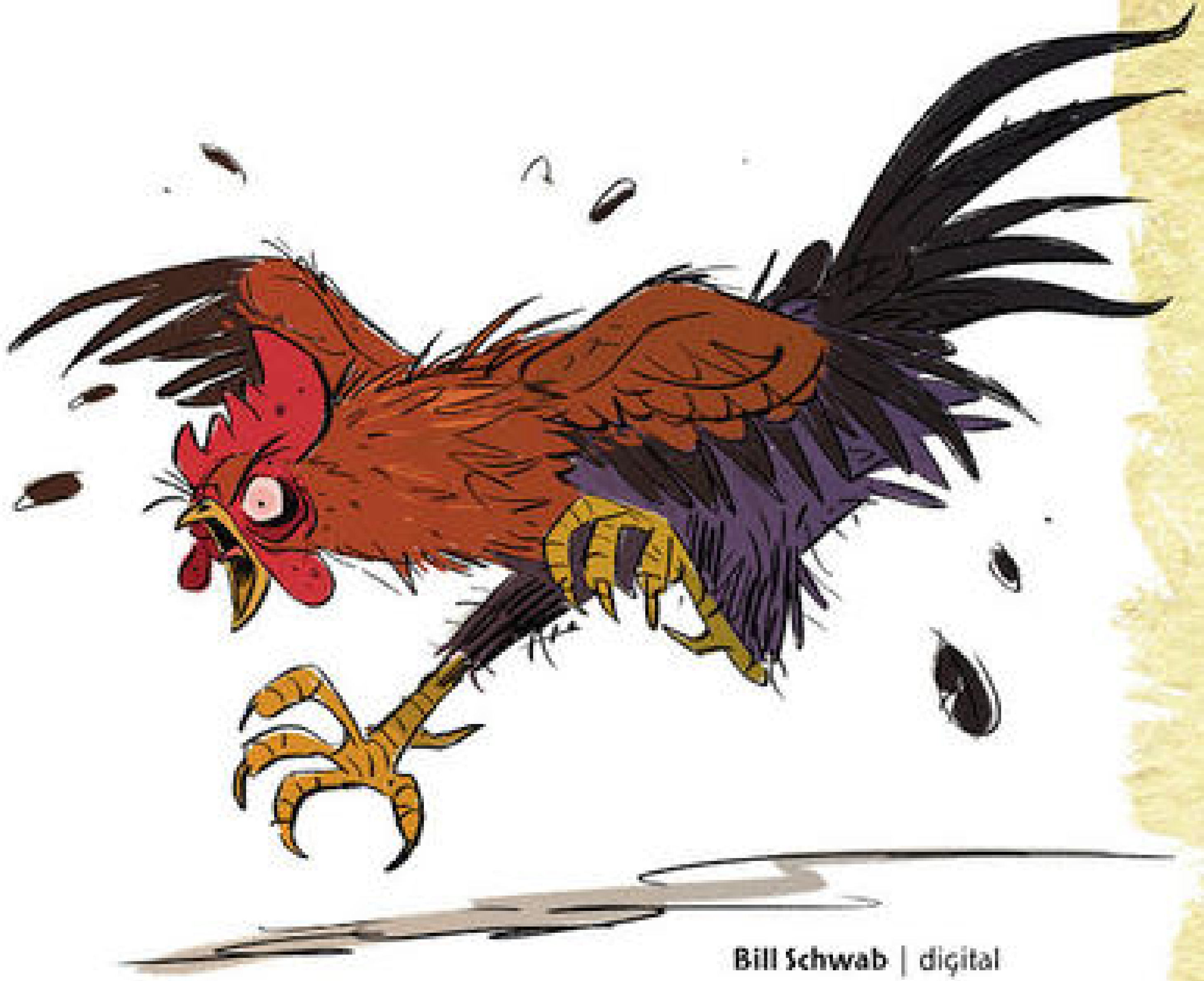
Bill Schwab | digital

Heihei is a bantam rooster, based on a specific type found in the islands. He's a scrappy little guy, rough around the edges, tattered, chewed up.
— Bill Schwab, art director of characters

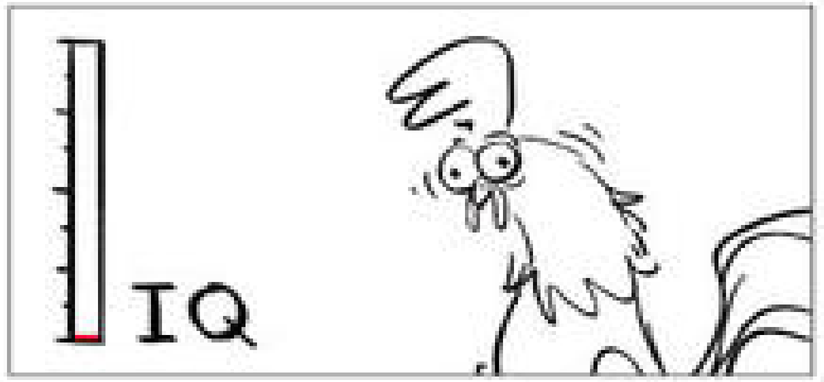
Annette Marnat | graphite



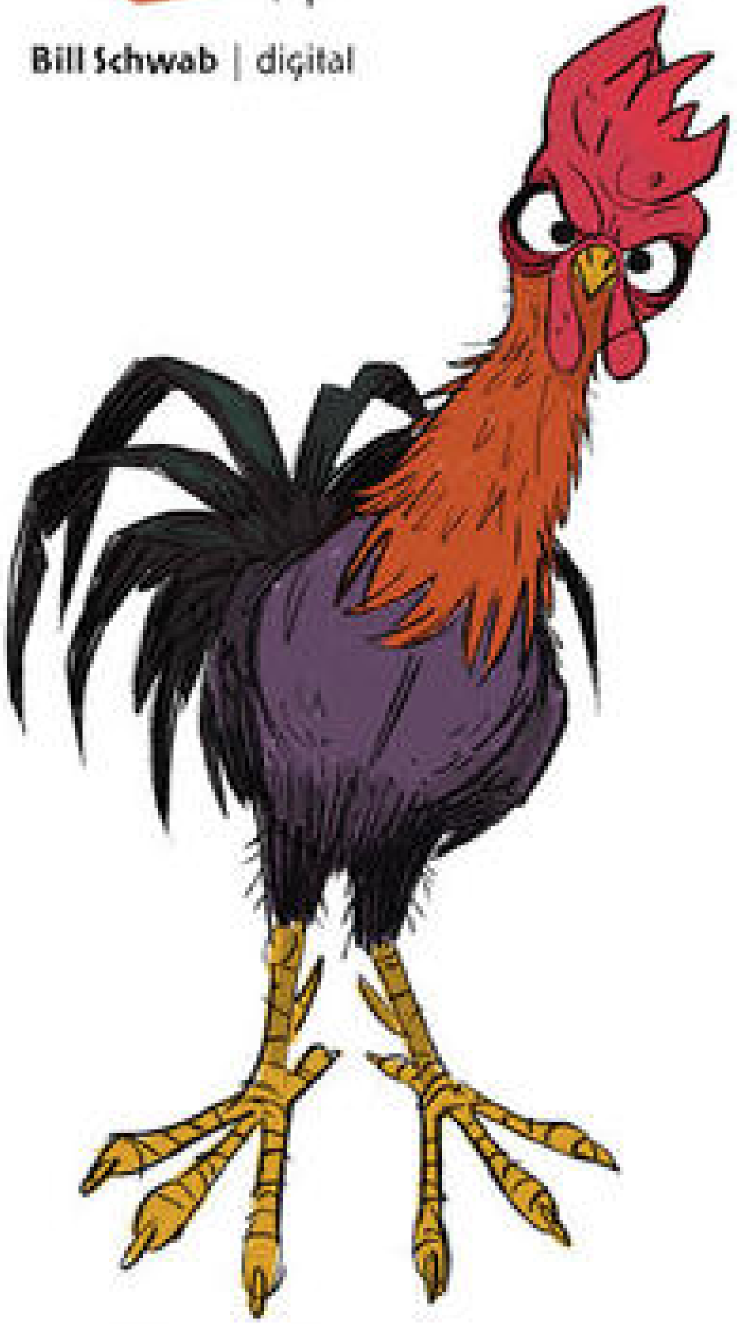
Bill Schwab | digital



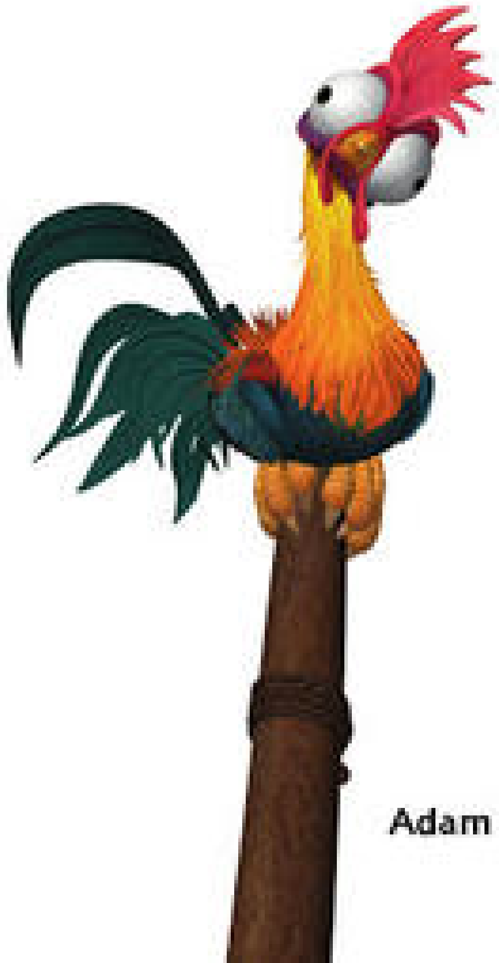
Bill Schwab | digital



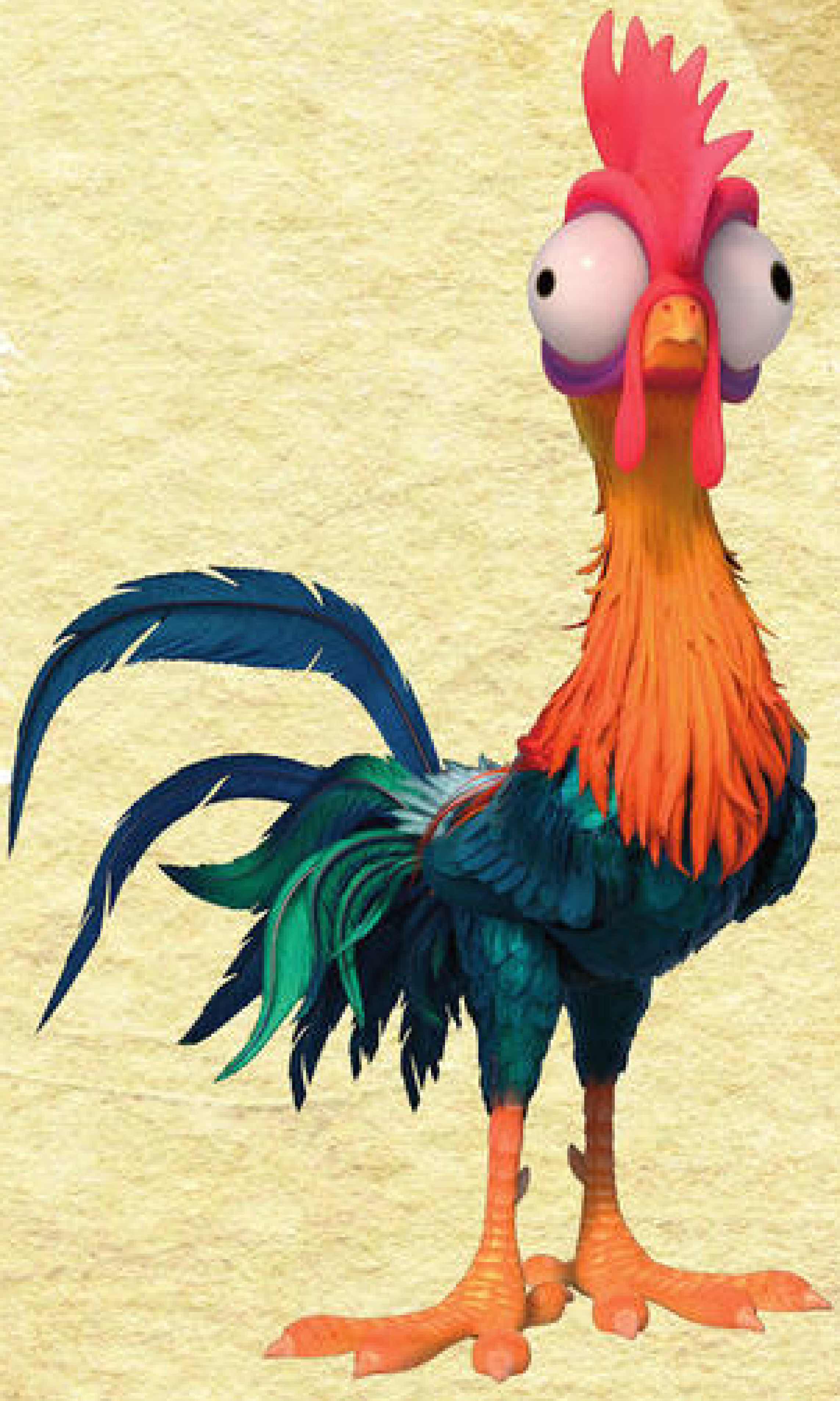
storyboard | **Ryan Green** | digital



Bill Schwab | digital



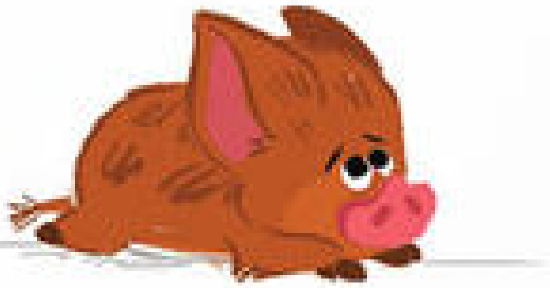
Adam Green | animation pose



Pua's initial design was super cute, but too generic. So [visual development artist] Nick Orsi and I had a "pig-a-palooza" – we drew tons of pigs, in every possible style and combination. And finally came up with this guy. He's a Kunekune pig, which are from New Zealand, and very diminutive in size.

– Bill Schwab, art director of characters

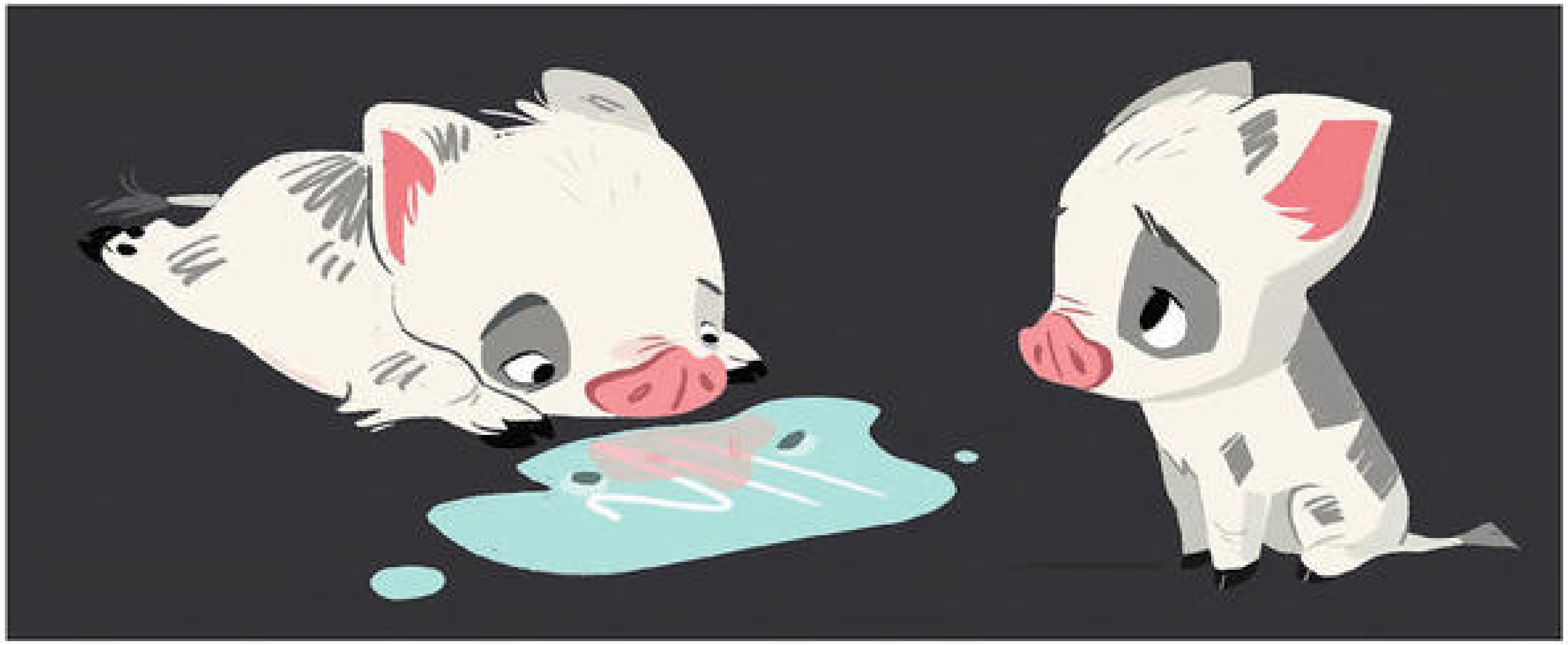
Nick Orsi | digital



Bill Schwab | digital

Bill Schwab | digital

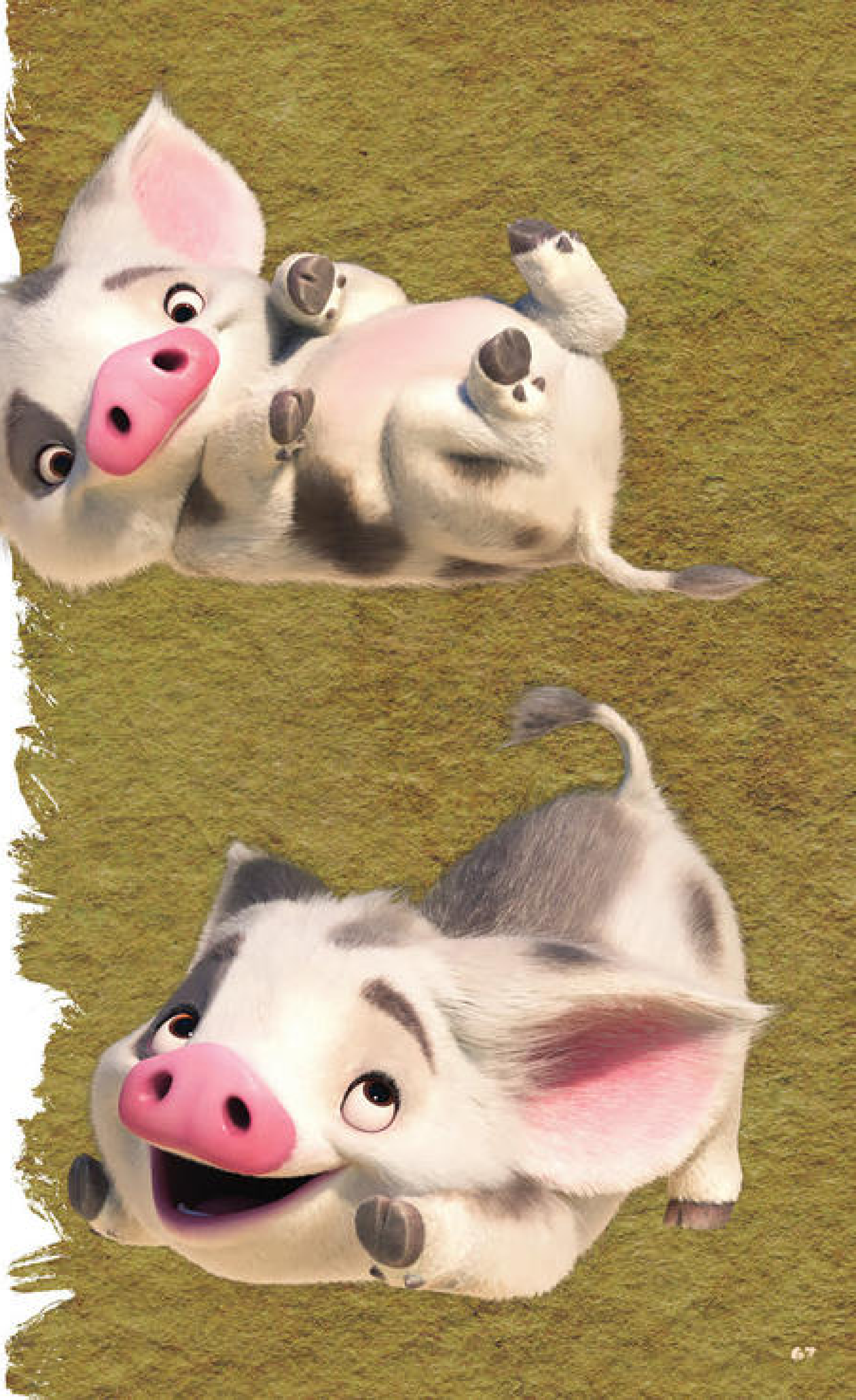
Nick Orsi | digital



Bill Schwab | digital

Bill Schwab | digital

Bill Schwab | digital



THE OCEAN CONNECTS US

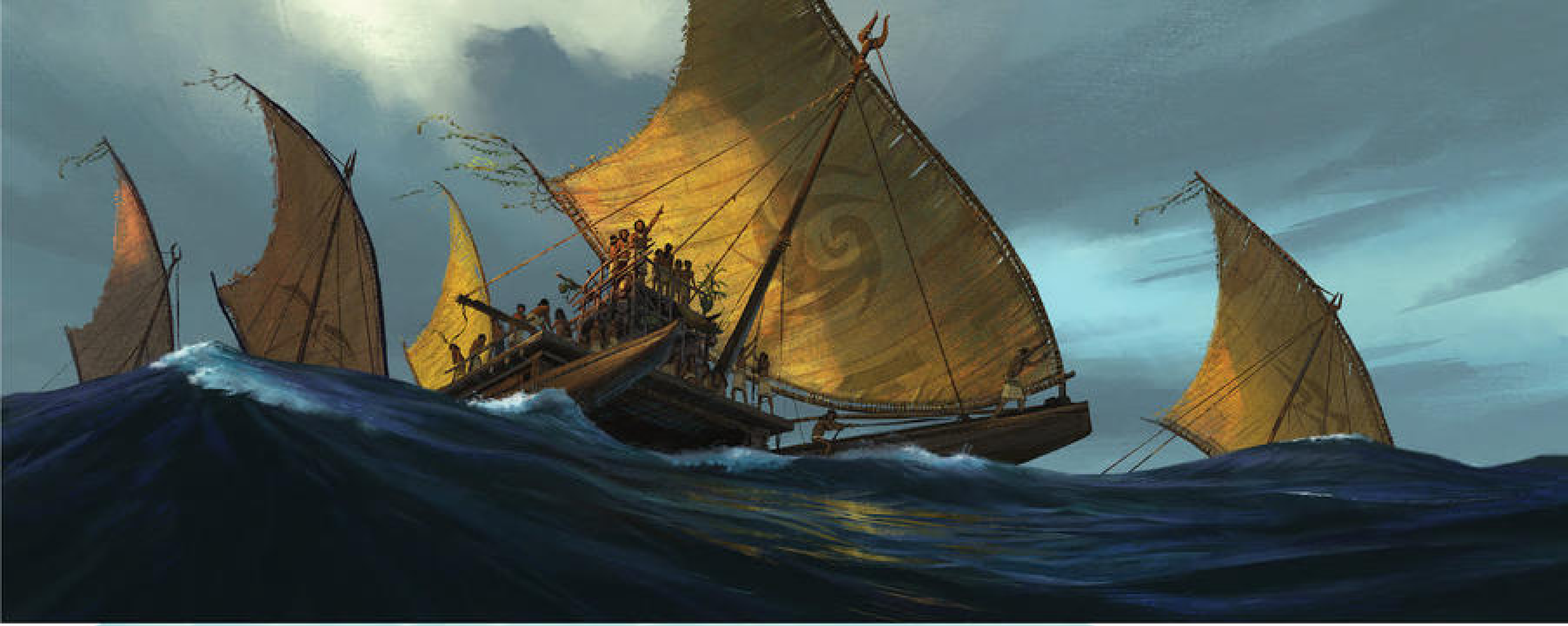
The ocean plays a crucial role in *Moana*. Much of the film takes place on the open sea. Directors John Musker and Ron Clements wanted to convey Pacific Islanders' belief that, as Musker recounts, "the ocean connects us. The land and the sea are one and the same." So they decided early on to make the ocean a sentient character, and not just a location. "Depicting this living ocean as a character felt right for the scope and visual language of the film," adds Clements.

Moana has a deep bond with the ocean from an early age. As co-director Don Hall notes, "Moana's unique ability to empathize, even as a toddler, is why the ocean chooses her for this journey that will heal the rift with nature caused by Maui and reclaim her people's cultural identity."

But how do you anthropomorphize a vast natural element like the ocean? Production designer Ian Gooding explains that "we played with the shapes to get the style we desired, but we didn't want to mess with the physics, like light passing through water or the patterns waves create on sand. We tried to honor how amazing the ocean is in reality, while adding a level of artistic design on top of it." Head of effects Marlon West agrees. "We are making a stylized animated film, but the effects have to be believable and must support the storytelling and production design in each scene." And, adds technical supervisor Hank Driskill, "whenever the water isn't important to the narrative, it just has to do the right thing—splashing, making a wake behind the canoe, lapping on the shoreline—so it doesn't draw the eye in a way that pulls you out of the story."

With the ocean as a natural connection between landmasses, watercraft inevitably play an essential role in Pacific Island life. The canoes depicted in *Moana* reflect a variety of uses, from small fishing canoes to huge seagoing vessels. Much of the film takes place on Moana's canoe, which as visual development artist James Finch notes, "is sturdy, but not typically meant to be out on the open ocean." It doesn't have

Pascal Campion | digital
Pages 68–69: **James Finch** | digital



James Finch | digital

the ability to cut through big waves—it would basically go up the face of the wave and come down and crash, taking on water—and would be fairly tough to navigate deep ocean."

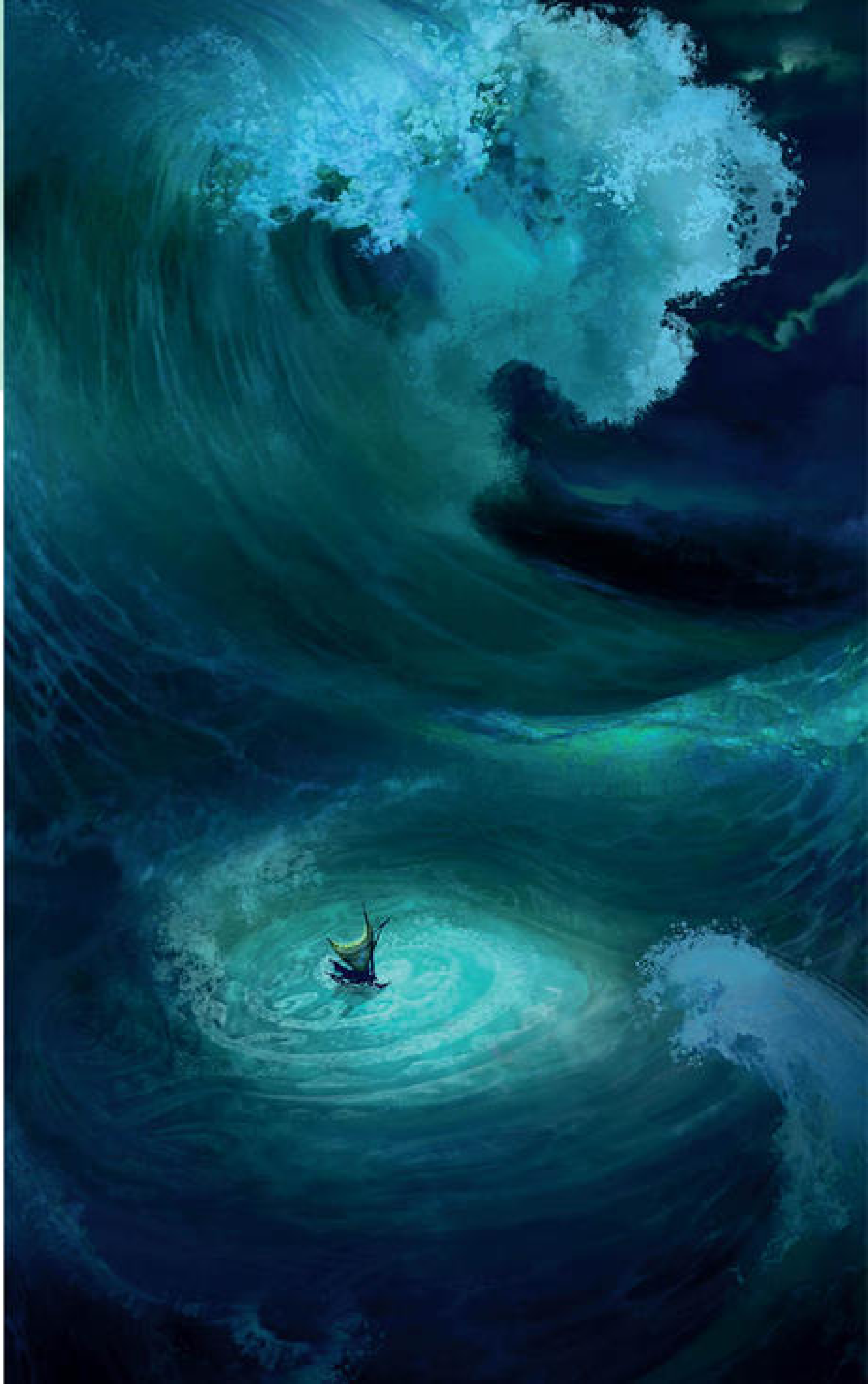
The film portrays both tacking boats, which change course by sailing in a zigzag pattern into the wind, and shunting boats, which do so by moving the entire sail, boom, and rudder to the opposite end of the vessel. Gooding was eager to depict the shunting canoes because, "they are a unique part of Pacific culture. For a long time, no one thought people could sail west to east because wind blows the opposite way. Sailing into the wind is very difficult to do. Even boats today have trouble doing so. But shunting, which lets you sail incredibly close to the wind, enabled them to do just that." Gooding also notes that, "The ancient Polynesians came up with the double-hulled canoes when they had to make the extremely long journey west from Fiji/Samoa/Tonga to Tahiti in the east. Those canoes could hold fifty to one hundred people, along with fresh water, coconut and banana trees, taro root and breadfruit—everything they'd need to survive the journey and on the new islands."

Designing the canoes was a fun challenge for the team because so little information is available about them. "Most of what we know today is from Captain Cook onward," says Gooding. For guidance, the team turned to the Oceanic Story Trust, which included traditional sailors and watercraft builders from Fiji, Tahiti, Samoa, and Hawaii, among others. Andy Harkness, art director of environments, proudly notes that the vessels onscreen "would all be functional, working boats." These vessels and the ocean they sail on, adds Gooding, "are what make the difference between Oceania being many islands separated by sea and it being a giant blue continent."

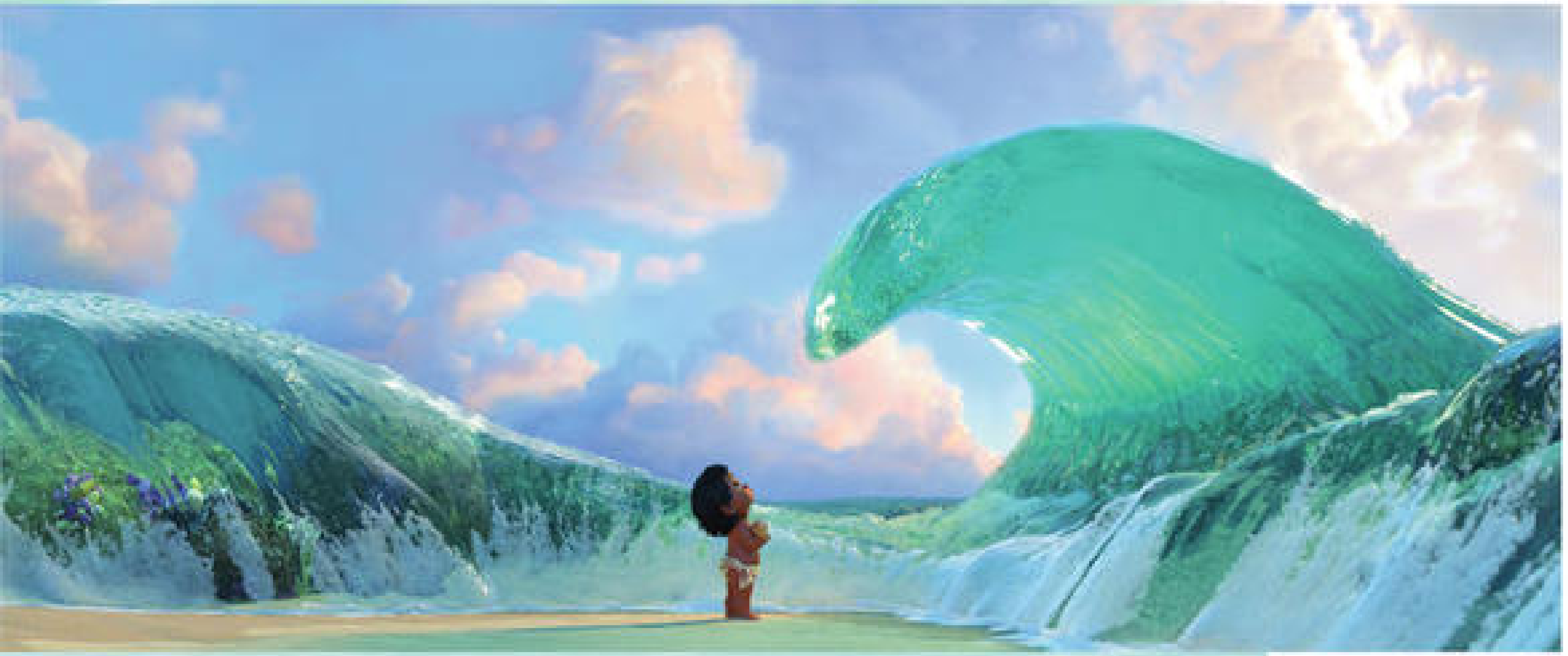
THE OCEAN

Creating a believable performance with the ocean was a huge technical challenge. "You can draw still pictures but you really don't know what it's going to look like until it moves," says Gooding. So, says head of effects Dale Mayeda, "we built a rig so the animators had something to interact with. It looked a bit like a sock puppet, which they nicknamed 'Gretchen.'" Head of animation Amy Lawson Smeed notes, "Gretchen helped us figure out how to get a performance across, while still having it look like moving water. It was a huge collaboration between the animation and effects departments.

"Visual development artist Lisa Keene developed a graphic language for the ocean that helped tremendously to convey its emotional states. In her research, Keene noticed patterns in the way oceans look. "I grouped waves into emotions and tried to find similarities that spoke to everyone. So when the ocean is happy, it's very round and broad, with maybe a playful spray at the tips. Sadness is slow ripples or circles, placid, but with a rhythm of some sort. Agitation has lots of surface disruption. Anger is very kinetic, big, almost aggressive – it will pull itself up to be able crash down onto something. Apathy is the opposite: no movement, very smooth and calm. An apathetic sea is extremely dangerous because when there's no wind, sailors can get trapped. A thoughtful ocean is very gentle, with soft curves and smooth lines, maybe some glistening, but nothing terribly active, and pastel colors."

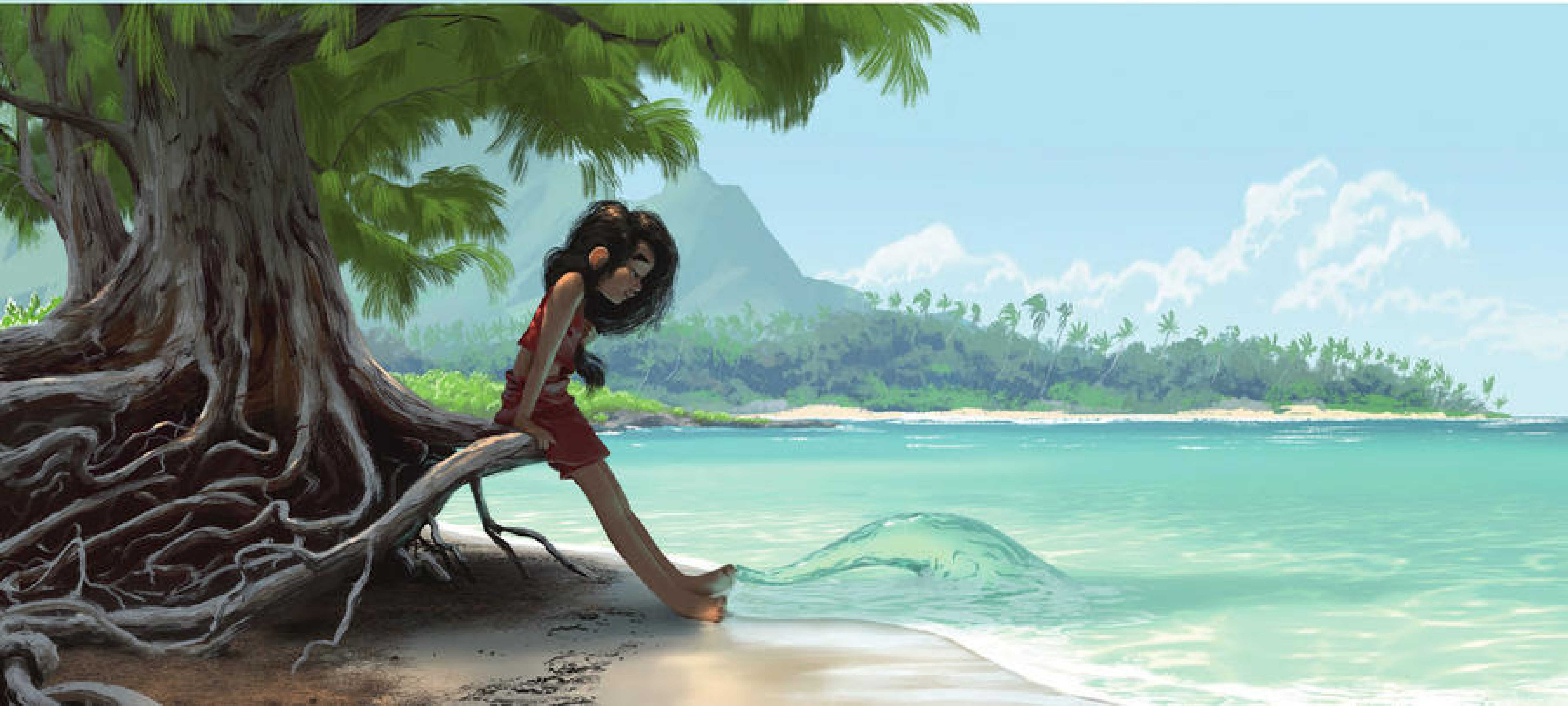


Lisa Keene | digital



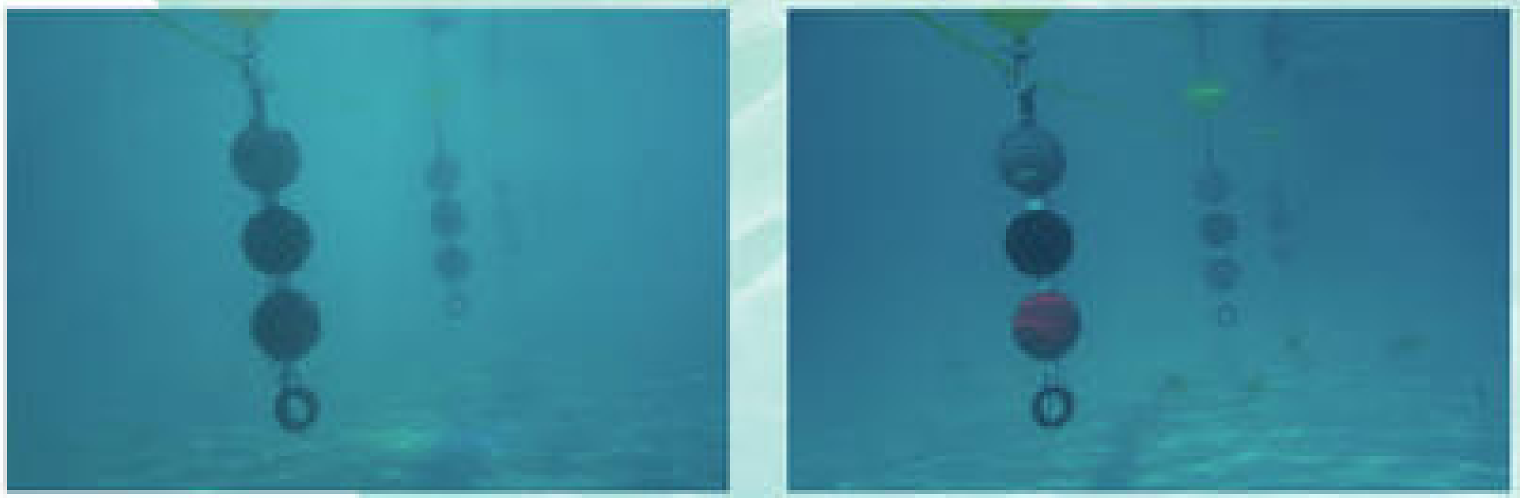
No matter what culture we come from, we visually interpret emotion in a similar way through color and shape language. I applied those same principles to the ocean.
– Lisa Keene,
visual development artist

Ryan Lang | digital



Andy Harkness | lighting paintover

Jeff Turley | digital

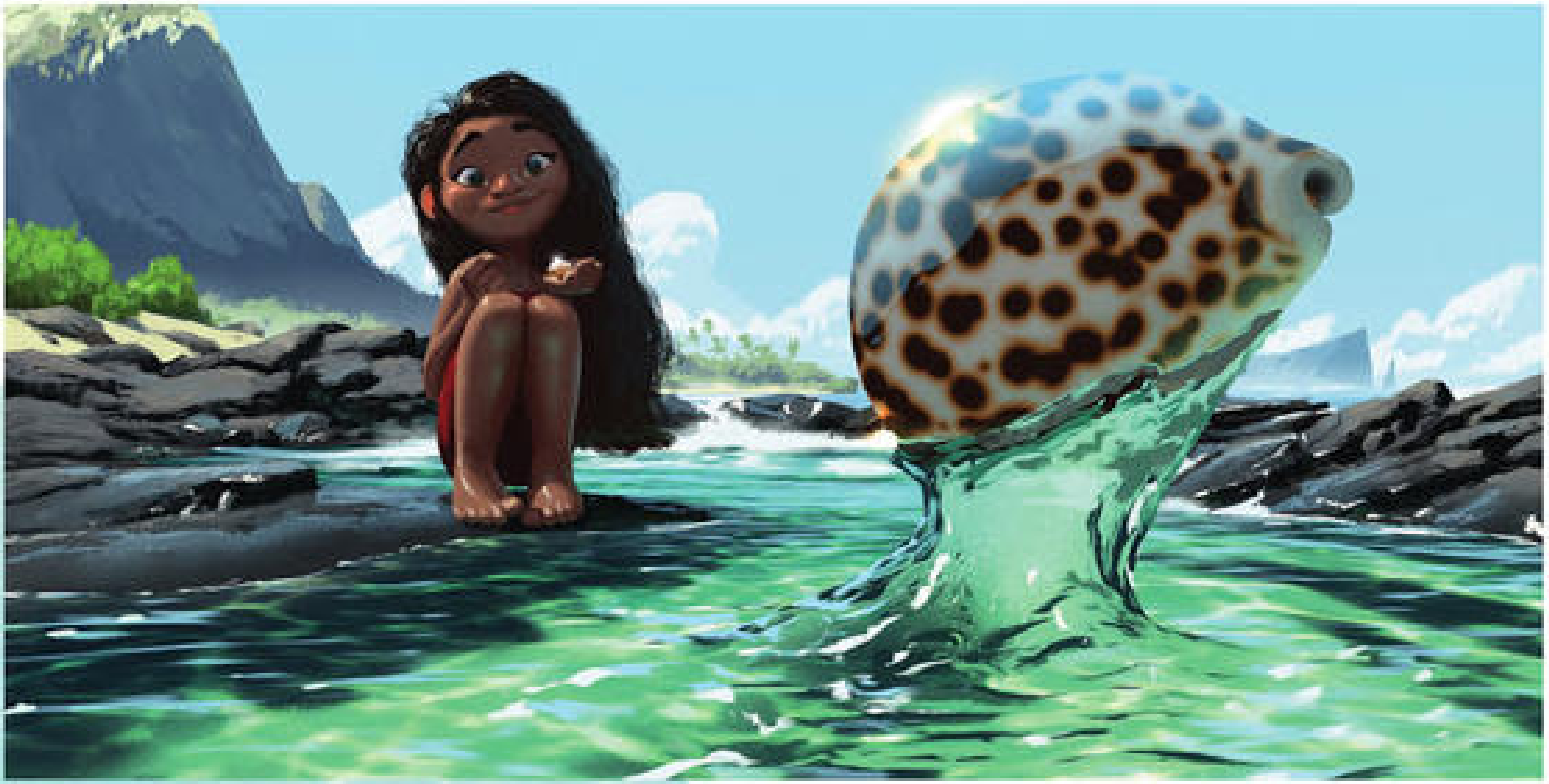


It was a great team effort between the effects, cinematography, lighting, and animation departments to help make the water look the best it can. We spent time in pools and the ocean to get reference on splashing, testing visibility at different depths, shooting lasers to measure the amount of light diffusing through the water – all to understand it better.

– Dale Mayeda, head of effects

Adolph Lusinsky | photos

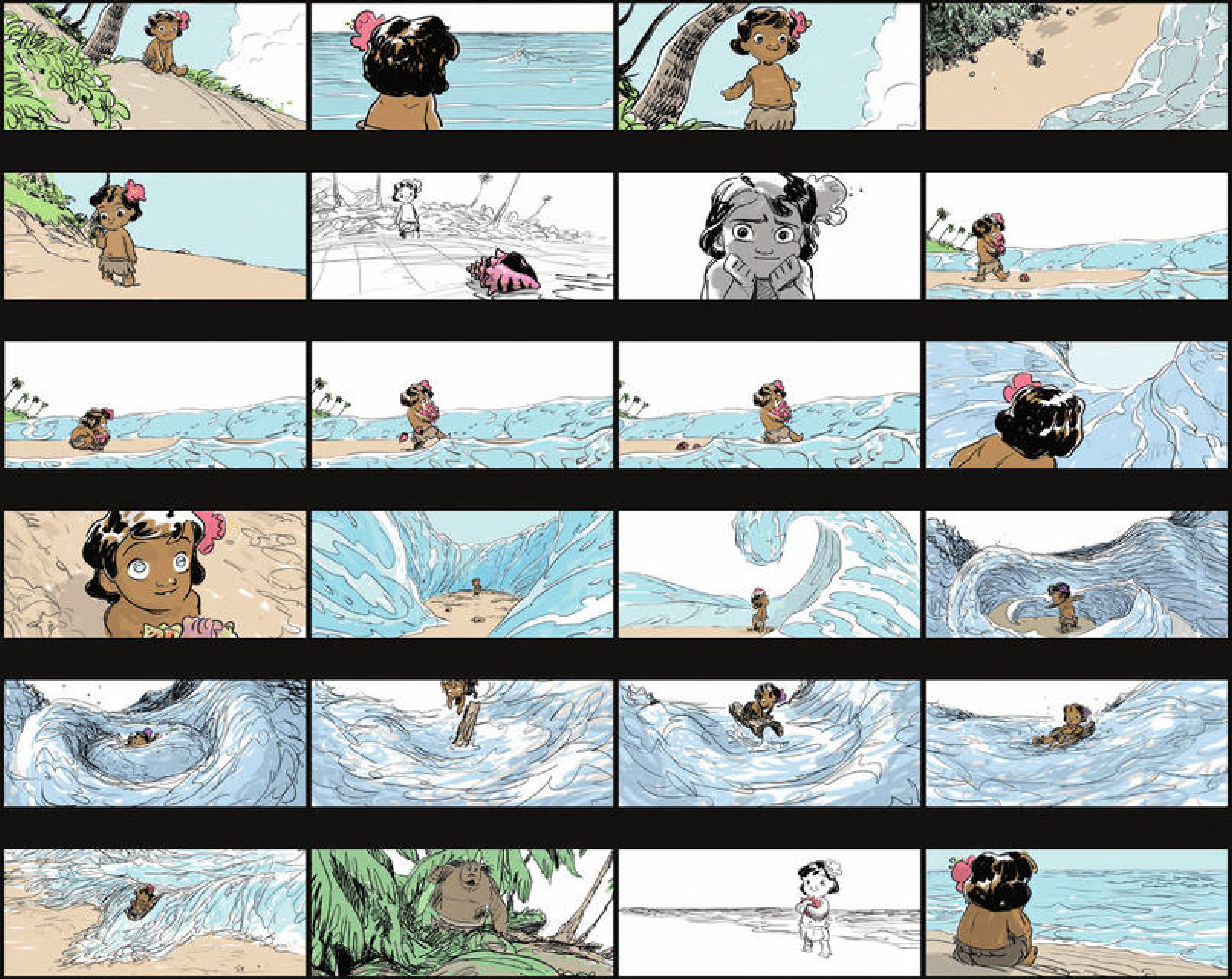
Pascal Campion | digital



Ryan Lang | digital

Lisa Keene | digital

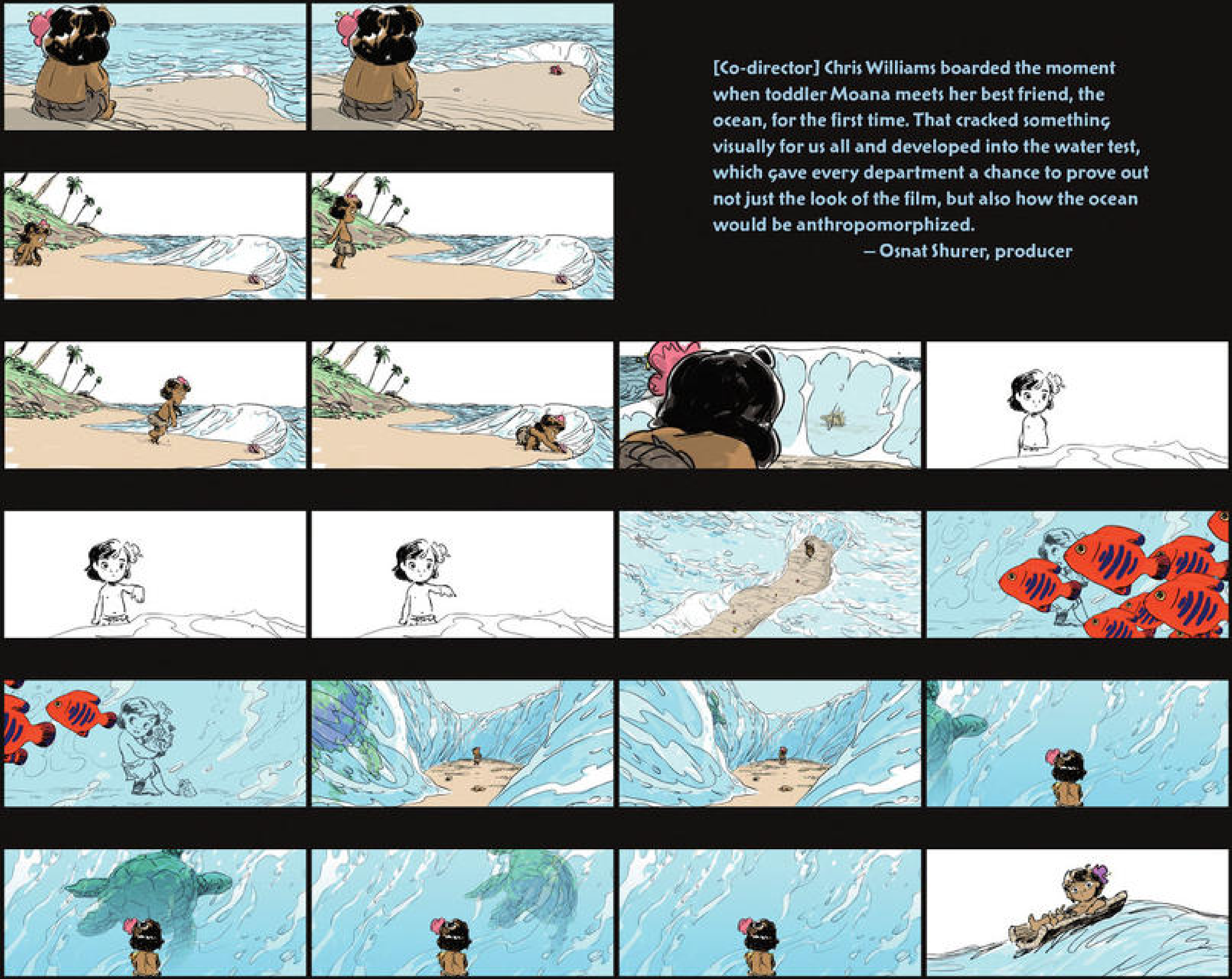
The water test was boarded so the ocean washes a shell onto shore, leaves it, then comes back to take it away. So the waves had to behave a certain way to make the storytelling work, though in reality they'd be lapping up on the shore. It's a balancing act between the reality and the storytelling.
– Marlon West, head of effects



[illegible]

[Co-director] Chris Williams boarded the moment when toddler Moana meets her best friend, the ocean, for the first time. That cracked something visually for us all and developed into the water test, which gave every department a chance to prove out not just the look of the film, but also how the ocean would be anthropomorphized.

– Osnat Shurer, producer



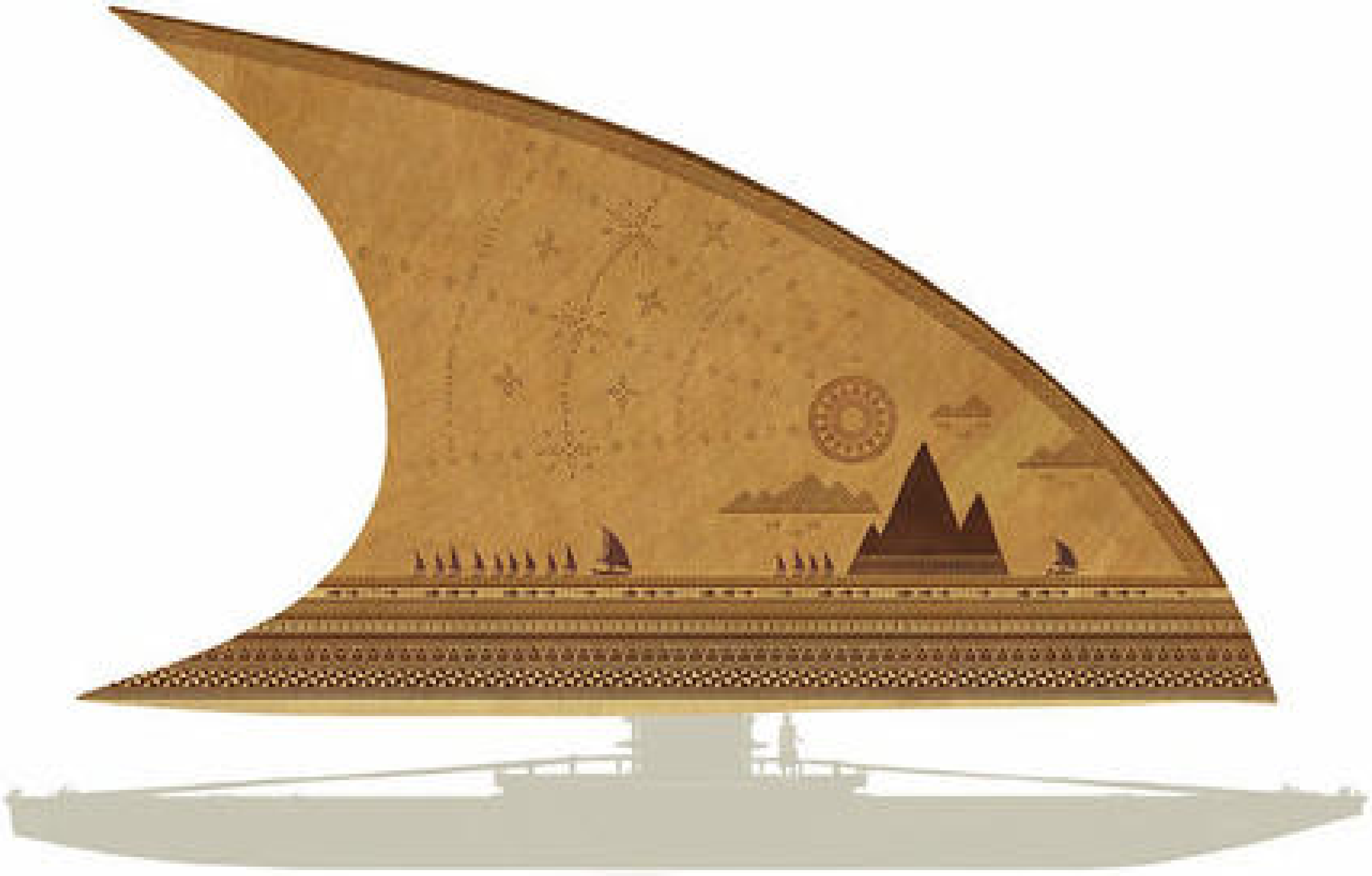
storyboards | **Chris Williams** | digital

THE CANOES

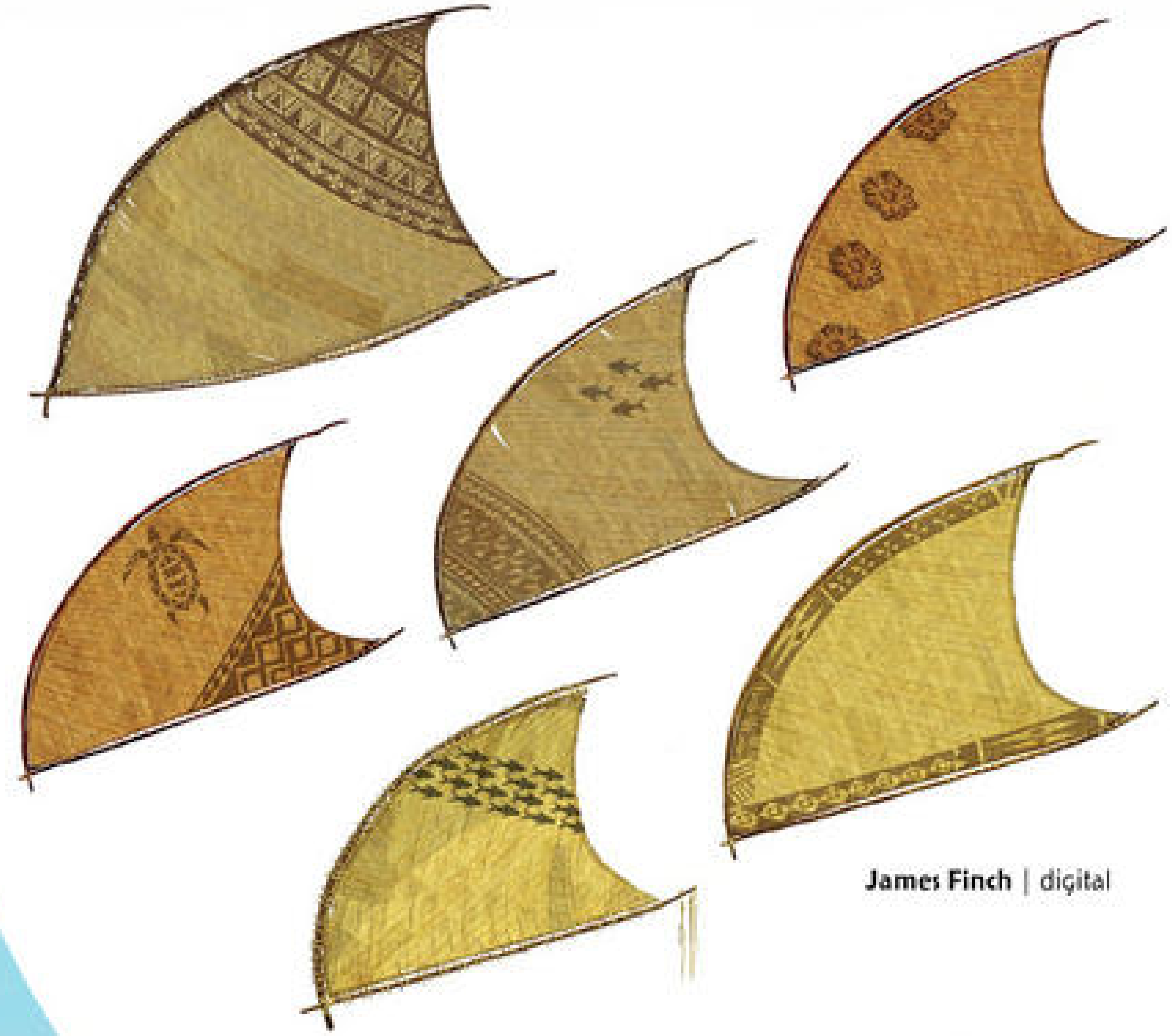
When visual development artist James Finch, who designed many of the boats in *Moana*, began to research Pacific Islander watercraft, he turned to several members of the Oceanic Story Trust, as well as Herb Kawainui Kāne's artwork of canoes from different regions as reference points. "We tried to honor the different cultures in a way that fits with the storytelling," Finch says. "And each island chain has its own preferences for how a canoe is designed." Sails range in shape from triangular to crab claws with a crescent. They could be single- or double-hulled, and have two outriggers or just one.

To showcase the wide variety of canoes the Pacific Islanders used while avoiding mixing styles together, says Gooding, "we separated the fleets in *Moana* by time period. The ancestor fleet is largely Fijian in design, while the Motunui designs are largely Samoan, and the fleet at the end is Tahitian." Even the patterns on the sails reflected this distinction. "The Fijian sails use *tapa* patterns, the Motunui sails use mainly Samoan tattoo patterns, which are very geometric. The Tahitian sails also use tattoo patterns but their tradition is more curvy, so that's a different aesthetic."

"We tried to never make an arbitrary aesthetic decision," Gooding adds. "We focused the design in a way that would help convey the emotion and the story. Even the patterns carved into side of canoes relate to the story."

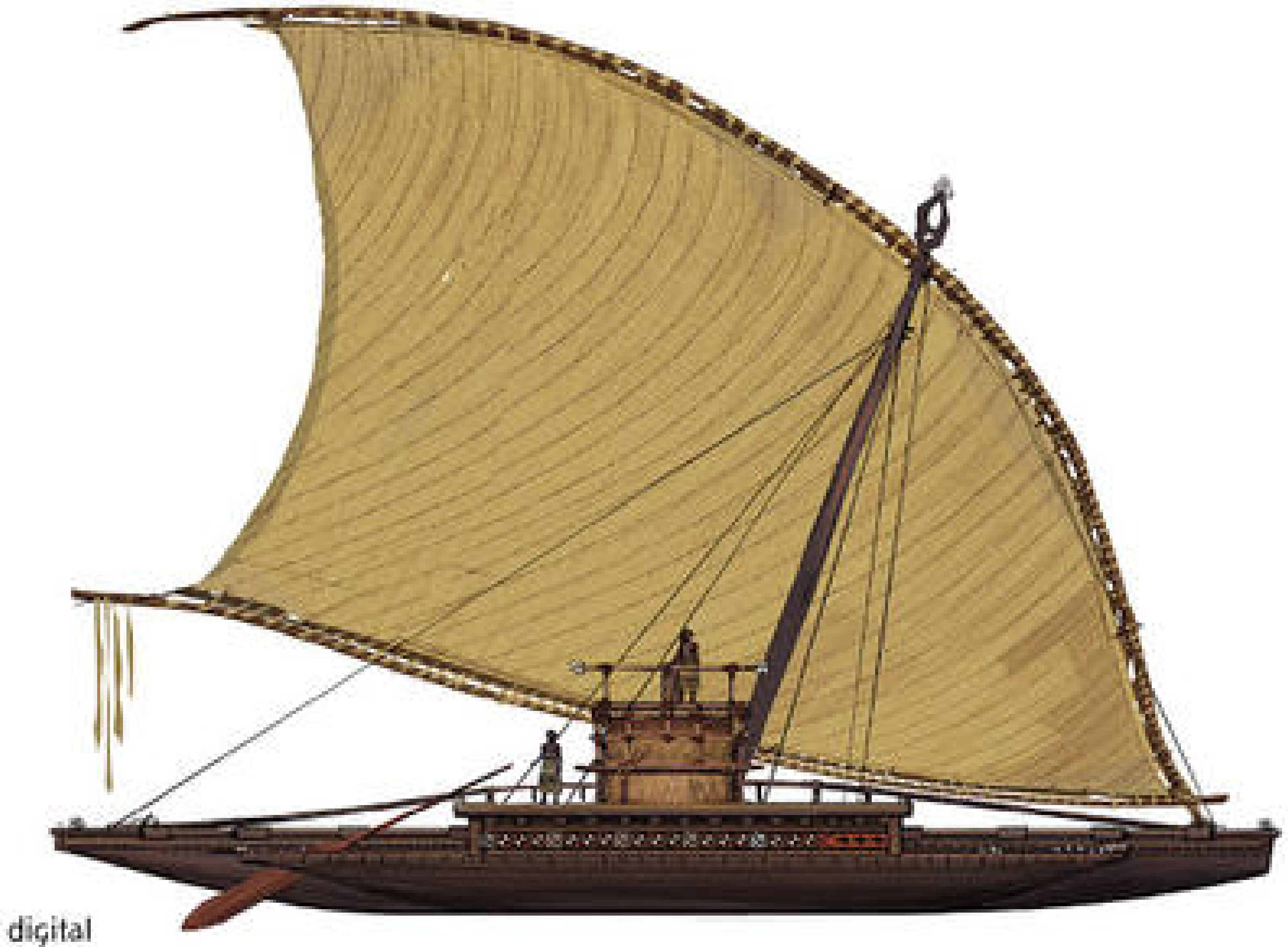


Leighton Hickman | digital



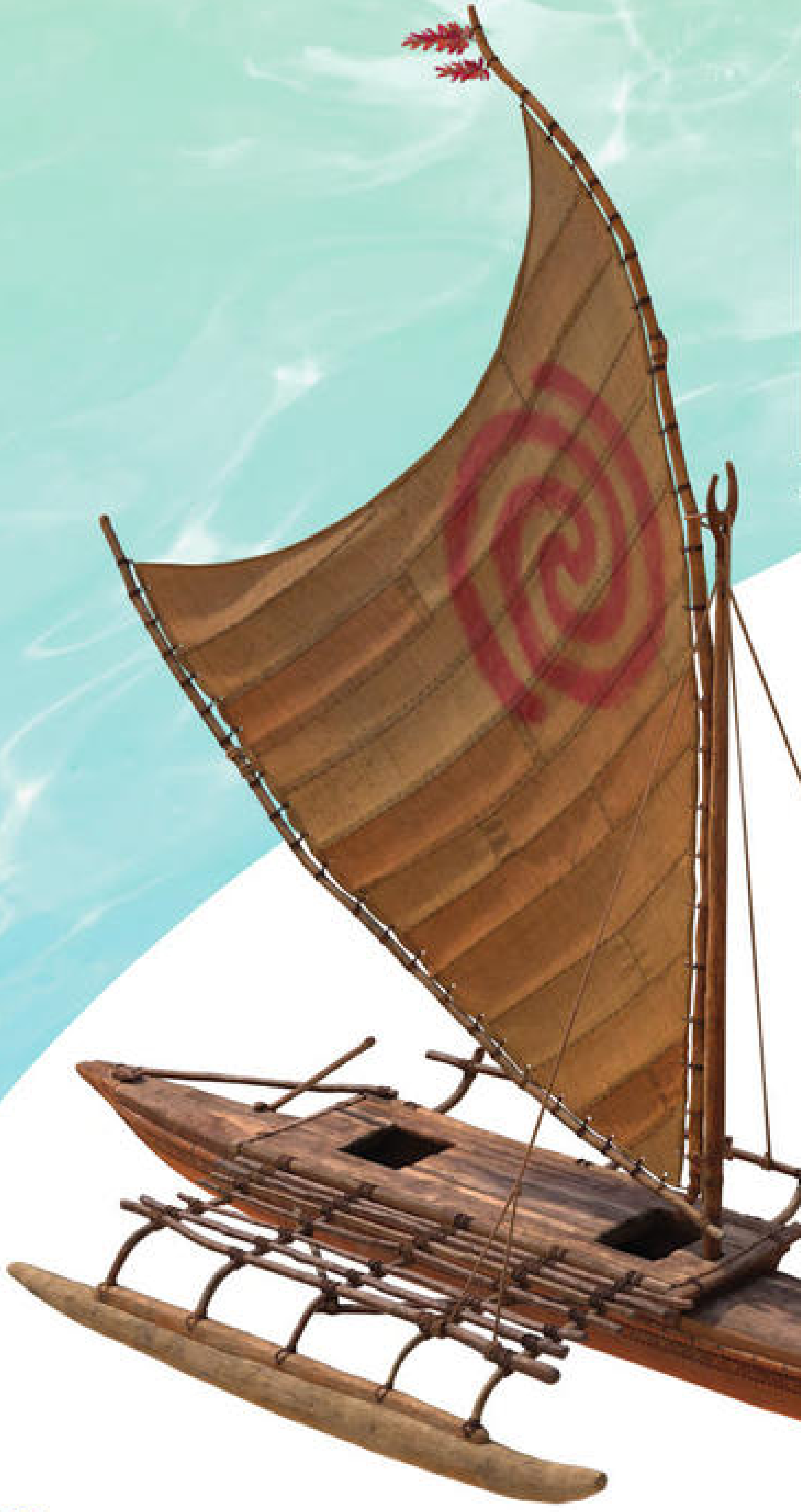
James Finch | digital

The Fijian canoes travelled long distances over open seas, so they are built to deal with large swells. They are heavy, sturdy, and take two to five years to build. Builders would chop down a tree, drag it down to the village, and carve out the hulls. They'd stitch an enormous sail, usually made from pandanus leaves, and weave yards and yards of rope from *sennit* (coconut fiber).
— James Finch, visual development artist

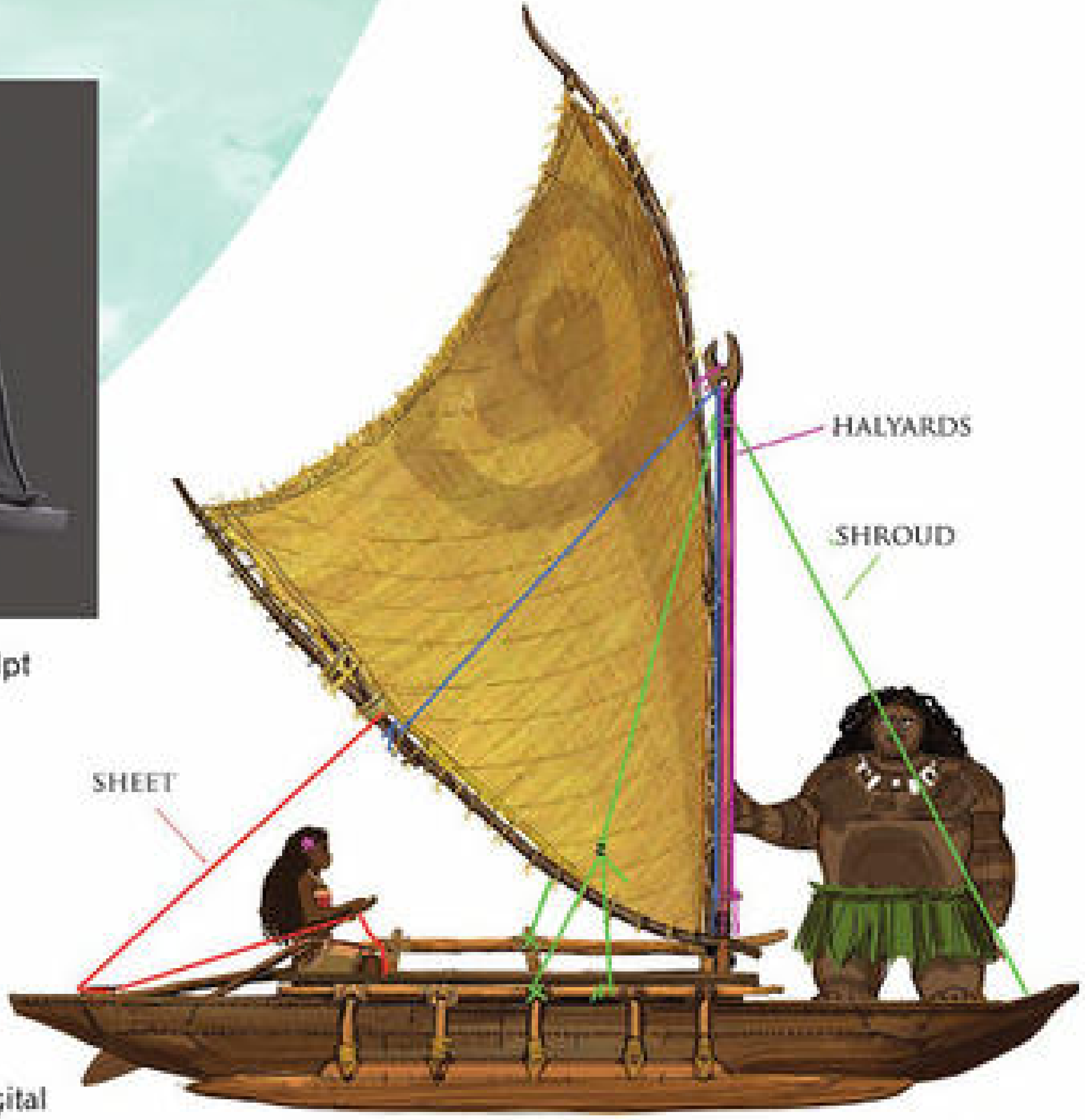


James Finch | digital

James Finch | digital

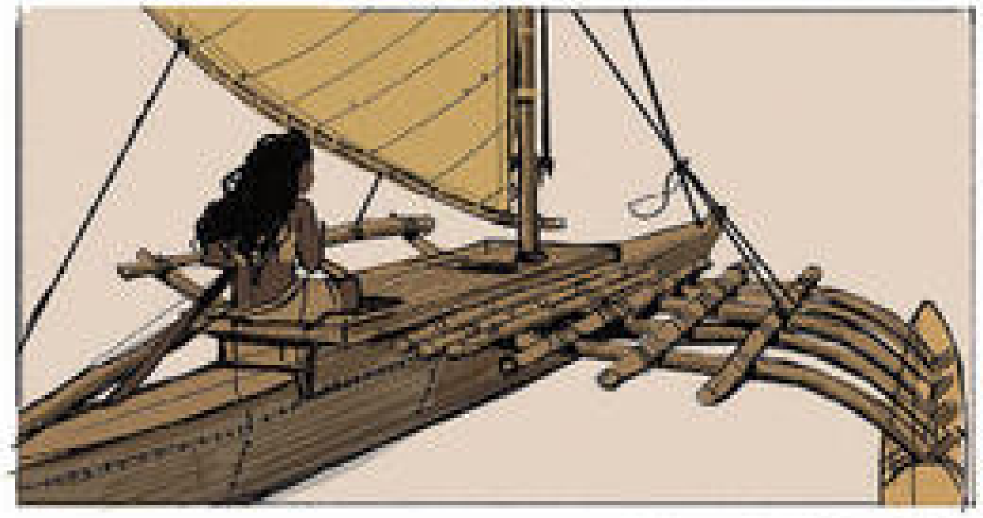


Punn Wiantrakoon | digital sculpt



James Finch | digital

Moana's boat is a hybrid between a tacking and shunting boat. Its rigging wasn't very common, but it did exist. Usually tacking boats don't have a closed-in deck, but larger shunting boats do because an open canoe on rough seas would swamp easily, and you'd be bailing water the whole time.
— Ian Gooding, production designer



James Finch | digital

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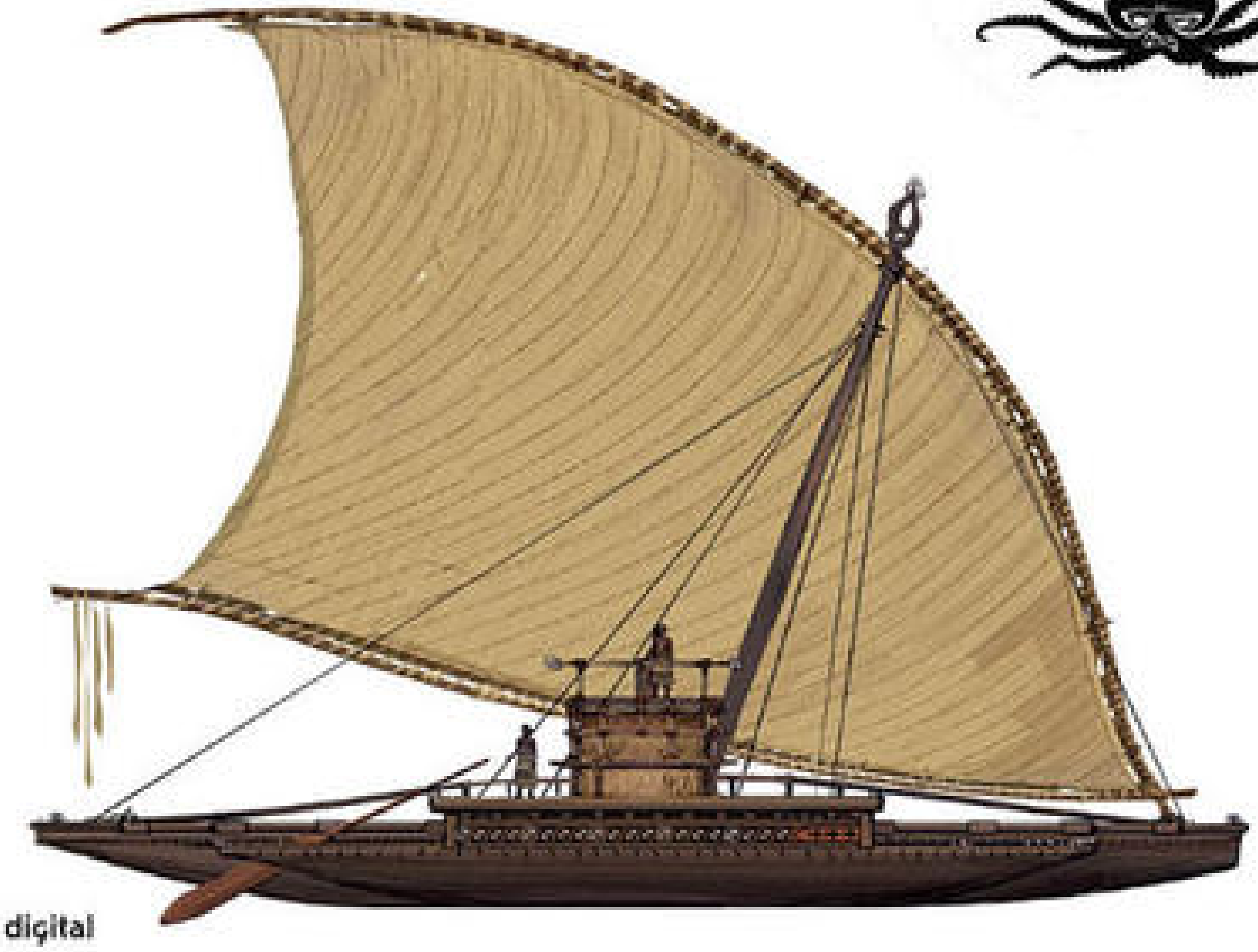
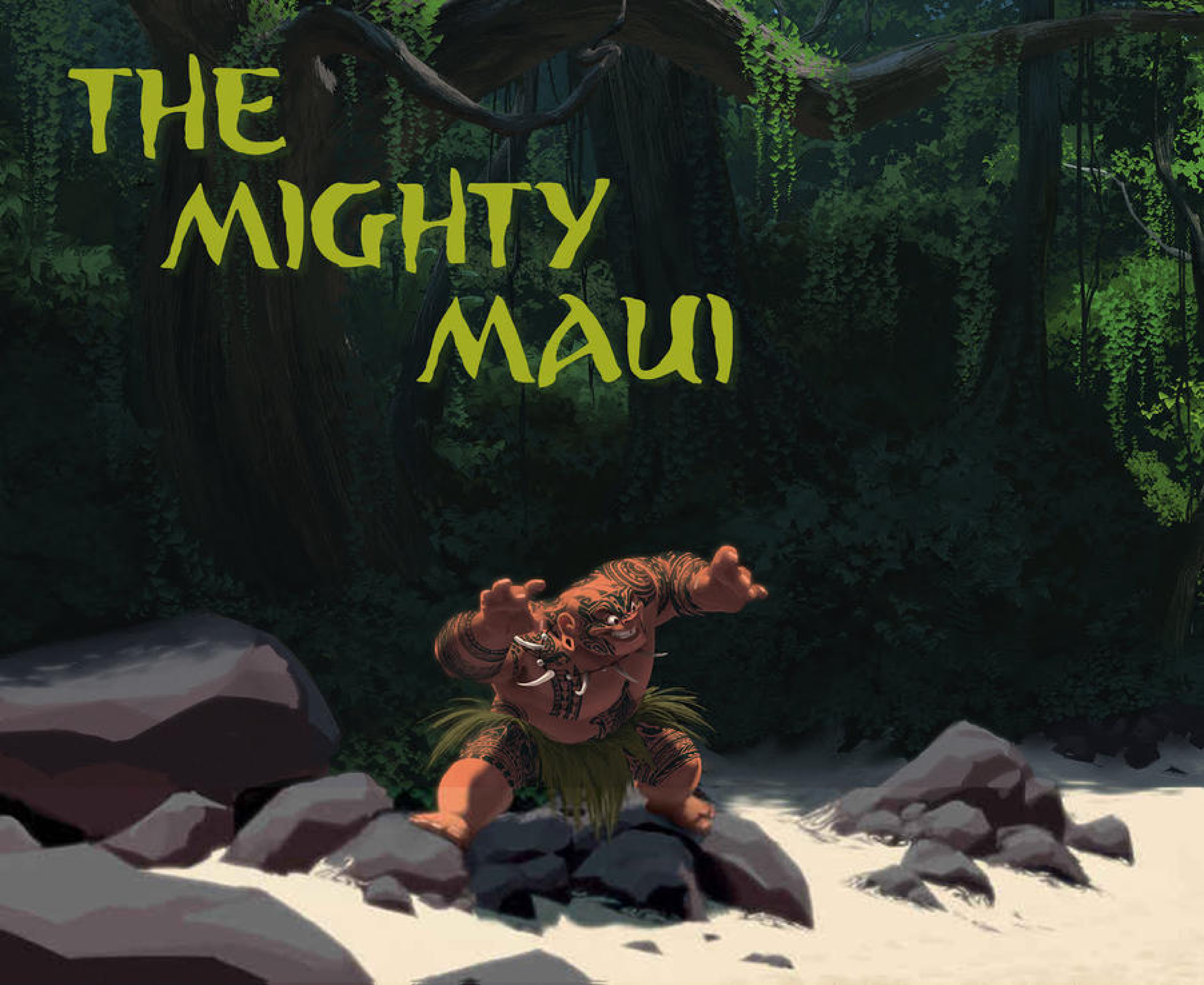


James Finch | digital

James Finch | digital


THE
MIGHTY
MAUI

From the beginning of story development, directors Ron Clements and John Musker knew they wanted the heroine of their original folktale adventure to cross paths with a character who was already legendary throughout all of the Pacific Islands—Maui. Maui is a demigod known as a strong man, a trickster, a shapeshifter, and a champion of man.

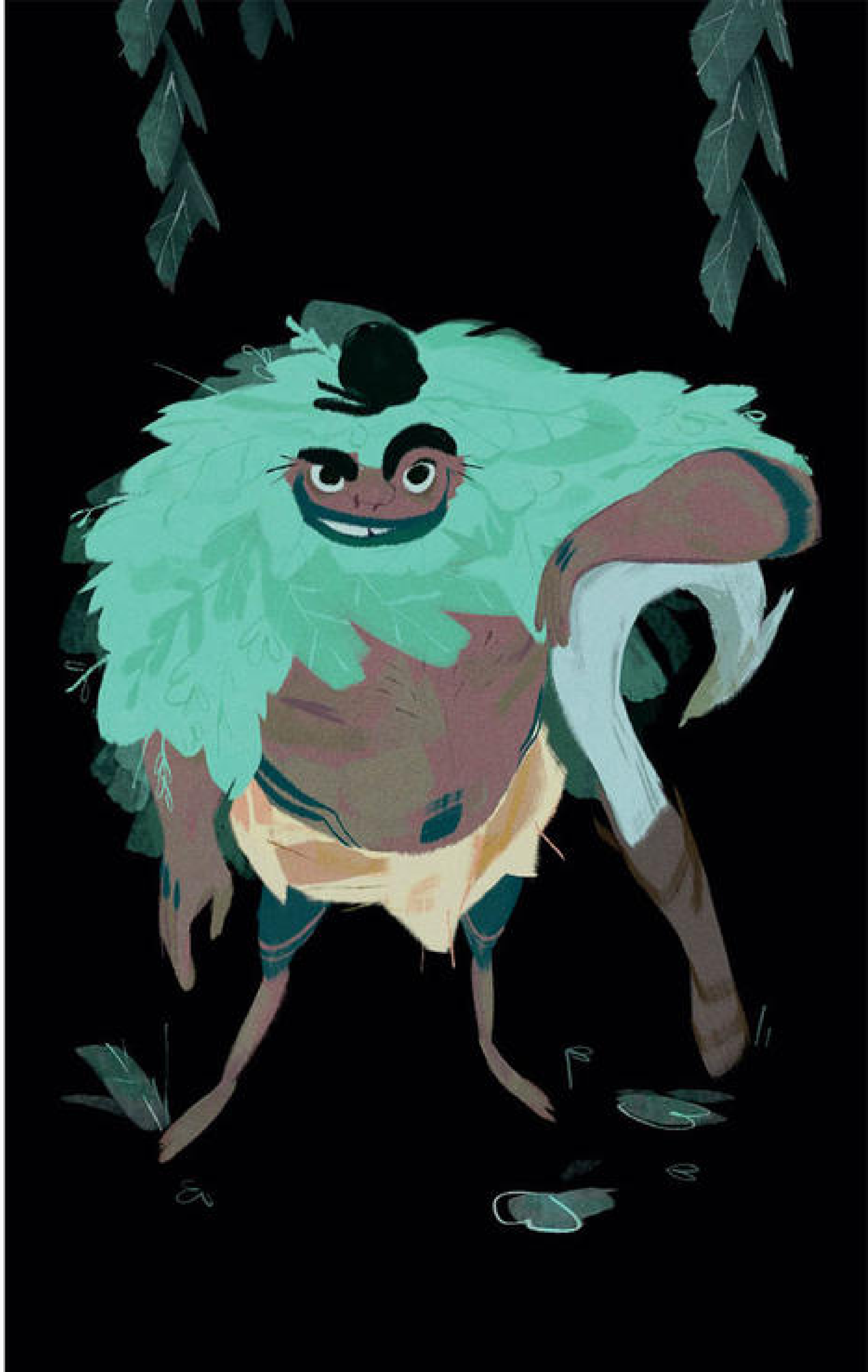
"Maui is like an Oceanic superhero," says co-director Don Hall. In the film, he explains, "Maui has a lot cockiness and brashness, but he is also very charming to offset that."

"He's a fun character because we can play him really bold and over the top and get away with it," says co-director Chris Williams. "It's perfect casting for Dwayne 'The Rock' Johnson, who is nothing if not confident and charming."

Moana and Maui meet when Moana washes up on Maui's island, directed there by her friend, the ocean. While he is necessary to achieving her goal of restoring the heart of the mother island, Te Fiti, Moana and Maui initially butt heads. Musker explains, "Maui generally has a more domineering approach when facing problems, and Moana has a compassion that he lacks. Because he's a trickster, it's hard to know when you can trust him." "Nonetheless," adds Clements, "he becomes a mentor to Moana as she's thrust into a world where she's out of her element. But ultimately, she teaches him what being a hero is all about." Designing the demigod was no small feat. "Initially, we had an idea to design Maui as being smaller than Moana, and she was going to be underwhelmed and disappointed when she met him," says production designer Ian Gooding. "Then, we asked people from the islands what their impression was of Maui, and all of them said he has to be huge. He's got all this mana, this power. So it was clear we truly had to make this guy larger than life."

Designing Maui's shape and anatomy proved to be both a design and a technological challenge. First off, as head of effects Marlon West explains, "In most of our other films, our characters have clothes on, but in Moana, we have characters like Maui with a lot of skin showing. That was a new test for both character and tech animation."

New software had to be written in order to figure out how skin slides believably over muscle.



James Woods | digital

Ryan Lang | digital

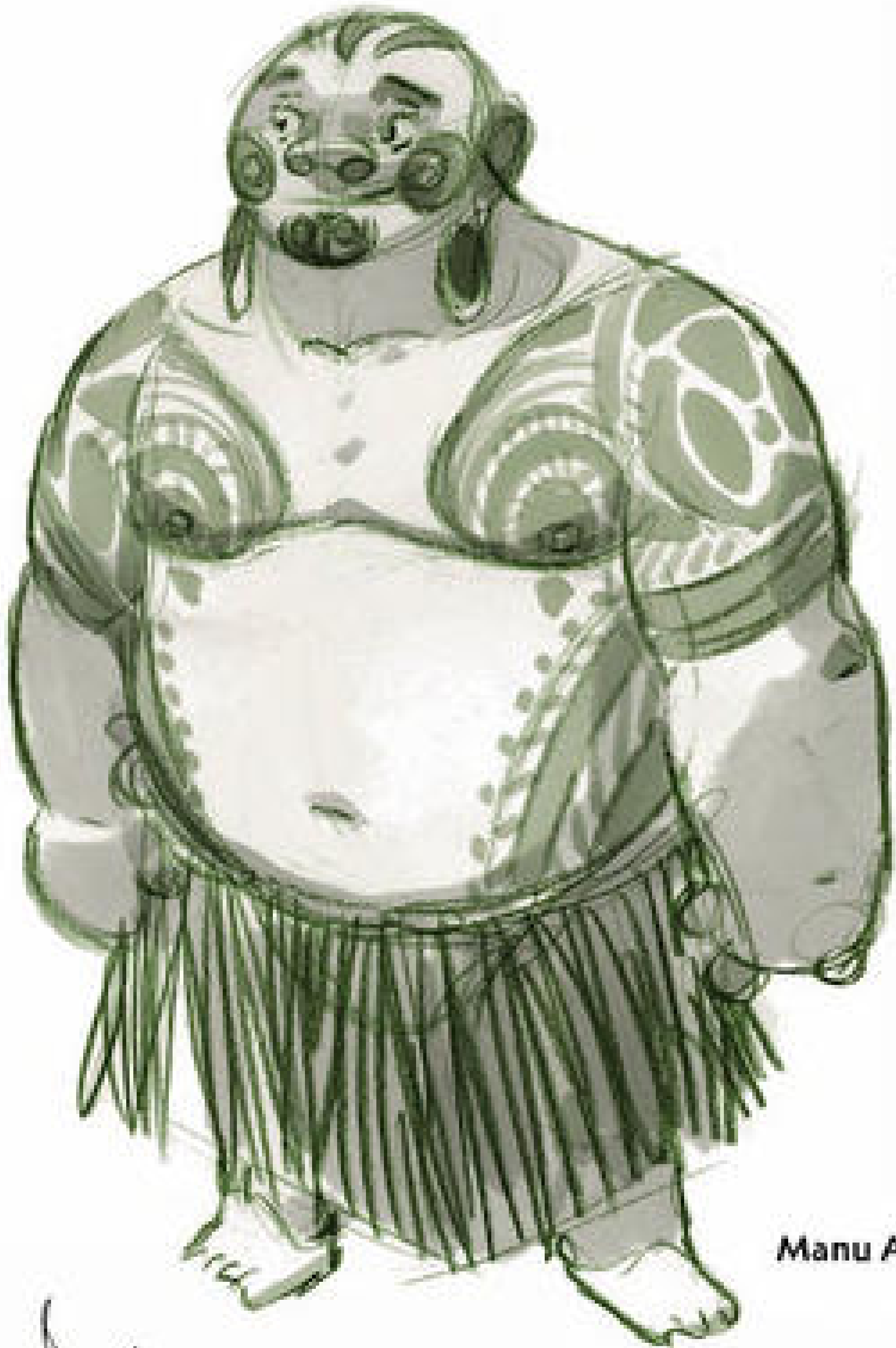
Minkyu Lee | digital

Minkyu Lee | digital

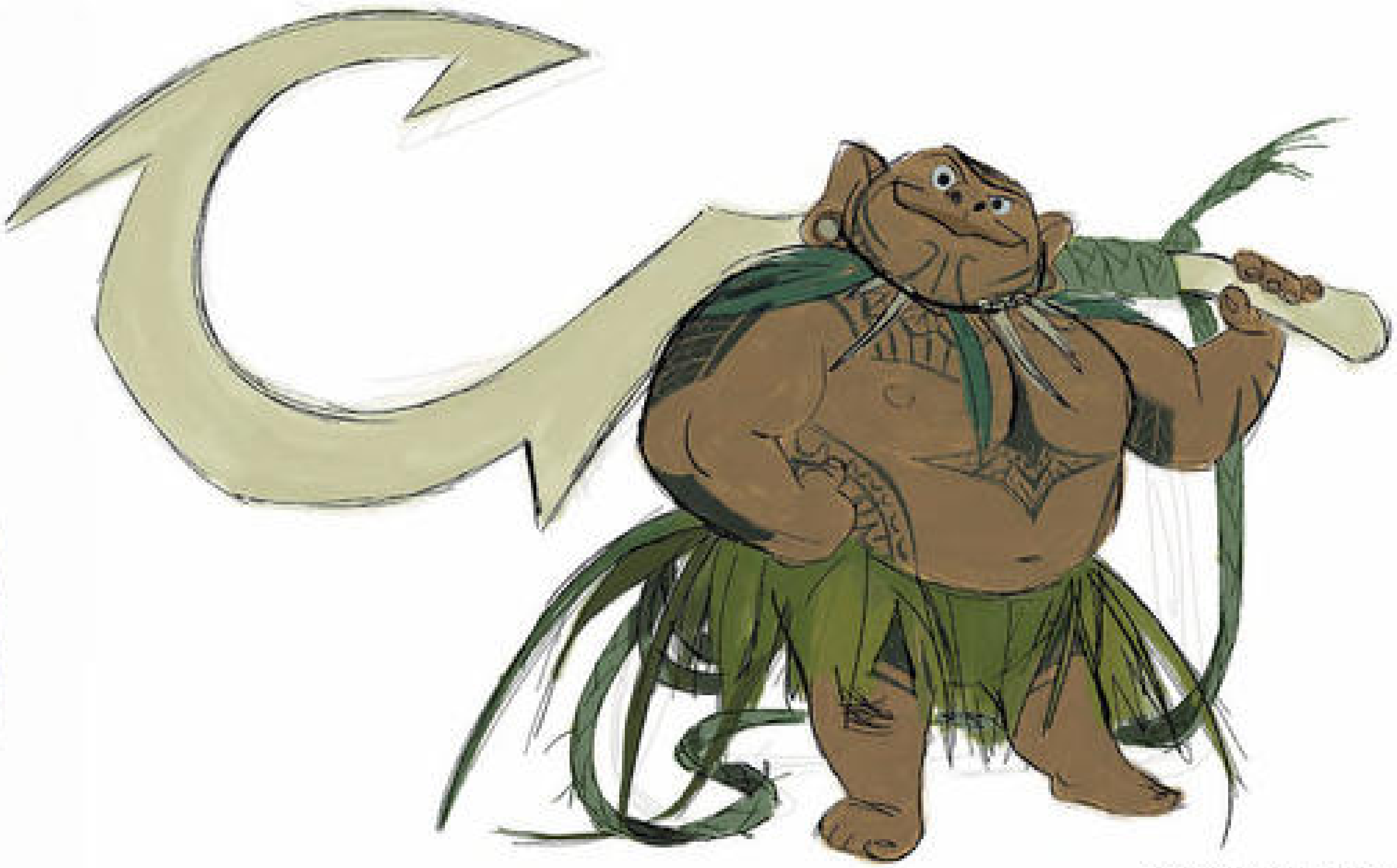
Then, the team had to figure out how to design Maui's body in a way that was powerful, believable, and appealingly caricatured all at the same time. "An enormous amount of thought went into the stylization of Maui's anatomy," says Gooding. "Maui is basically a square, and his legs are less than half the length if he were a normally proportioned person. But the team worked hard to cram all those muscle groups into the design so he looks powerful. Now, when he flexes, he looks spectacular."

Before reaching his final design, Maui also underwent several hairstyle evolutions. "Early on, we fell in love with a few drawings that [visual development artist] Sue Nichols did of Maui without hair," recalls Musker. "So for a while, Maui didn't have hair. It made him distinctive, but—" Clements interjects, "When we asked some of our consultants from Mo'orea, they told us that they envisioned Maui with a mane of Sampson-like hair. His hair is his *mana*, they explained. And we really like that."

Griselda Sastrawinata-Lemay | digital



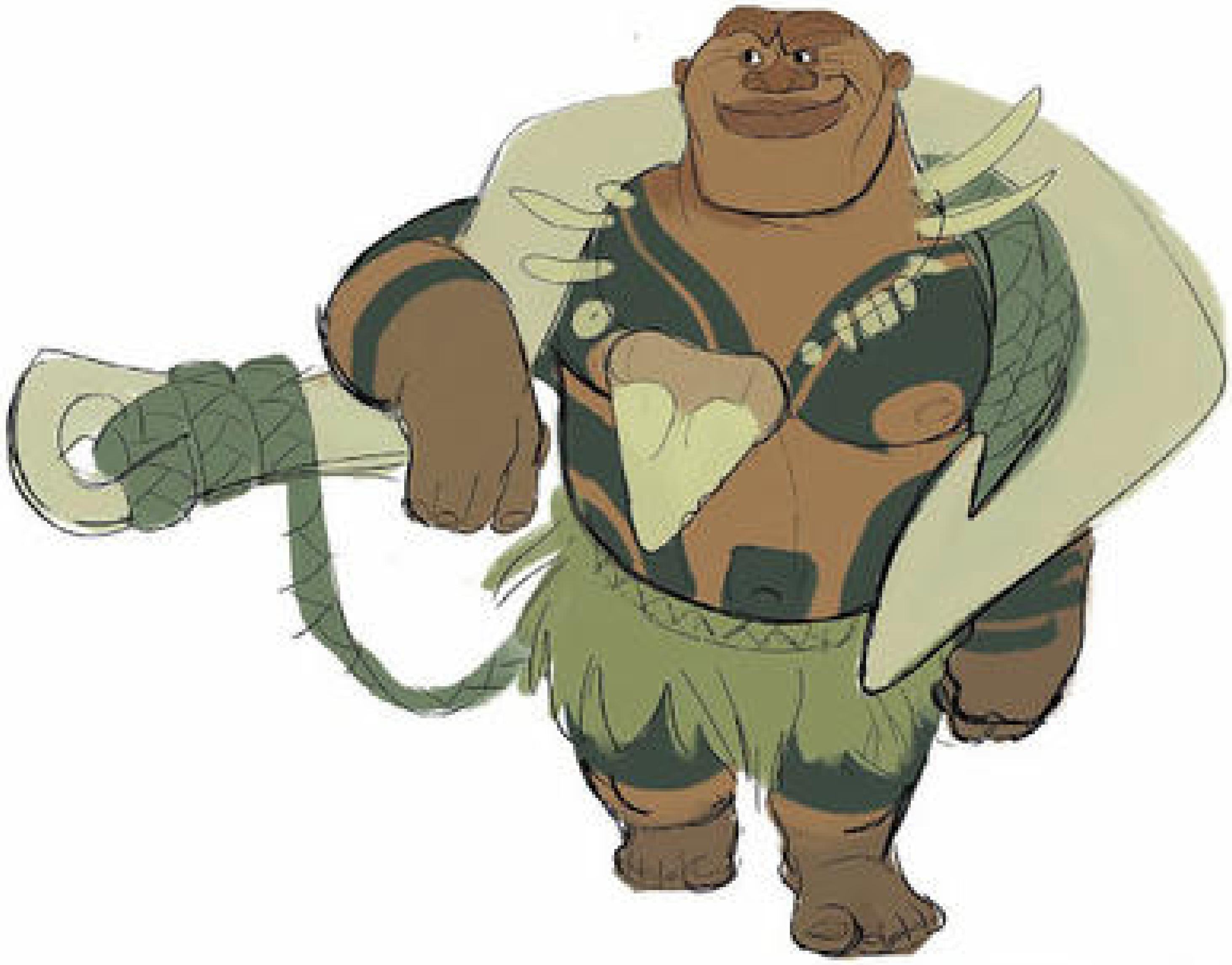
Manu Arenas | graphite, ink



Minkyu Lee | digital

Minkyu Lee | digital

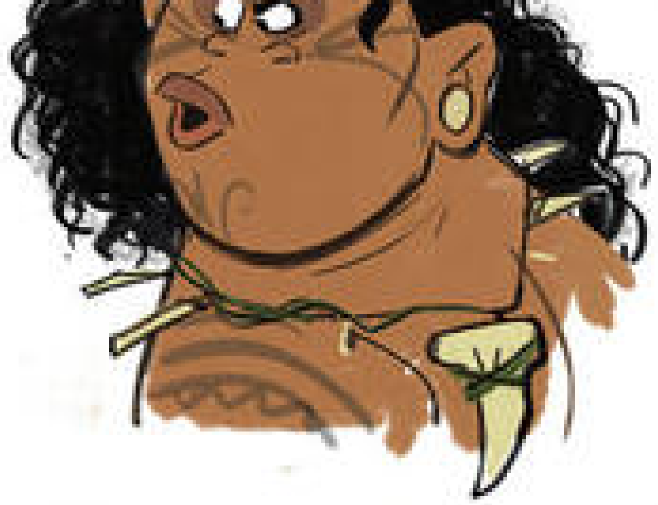
Minkyu Lee | digital

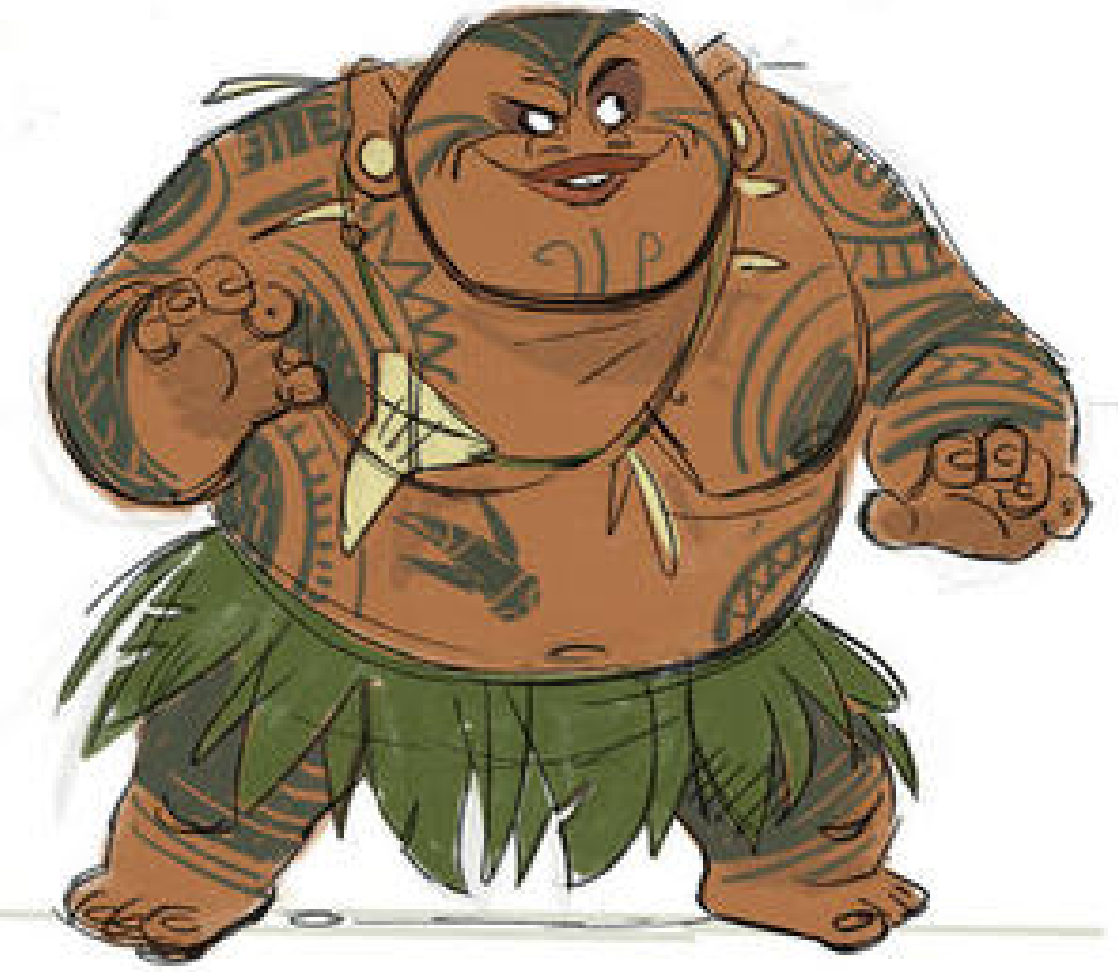


Nick Orsi | digital

We wanted to push the story point that Maui is a guy who might not be all there after spending a thousand years alone on an island. So he's got an eclectic necklace that has rotted-out shells, a megalodon shark tooth, and a giant's molar on it.

—Bill Schwab, art director of characters

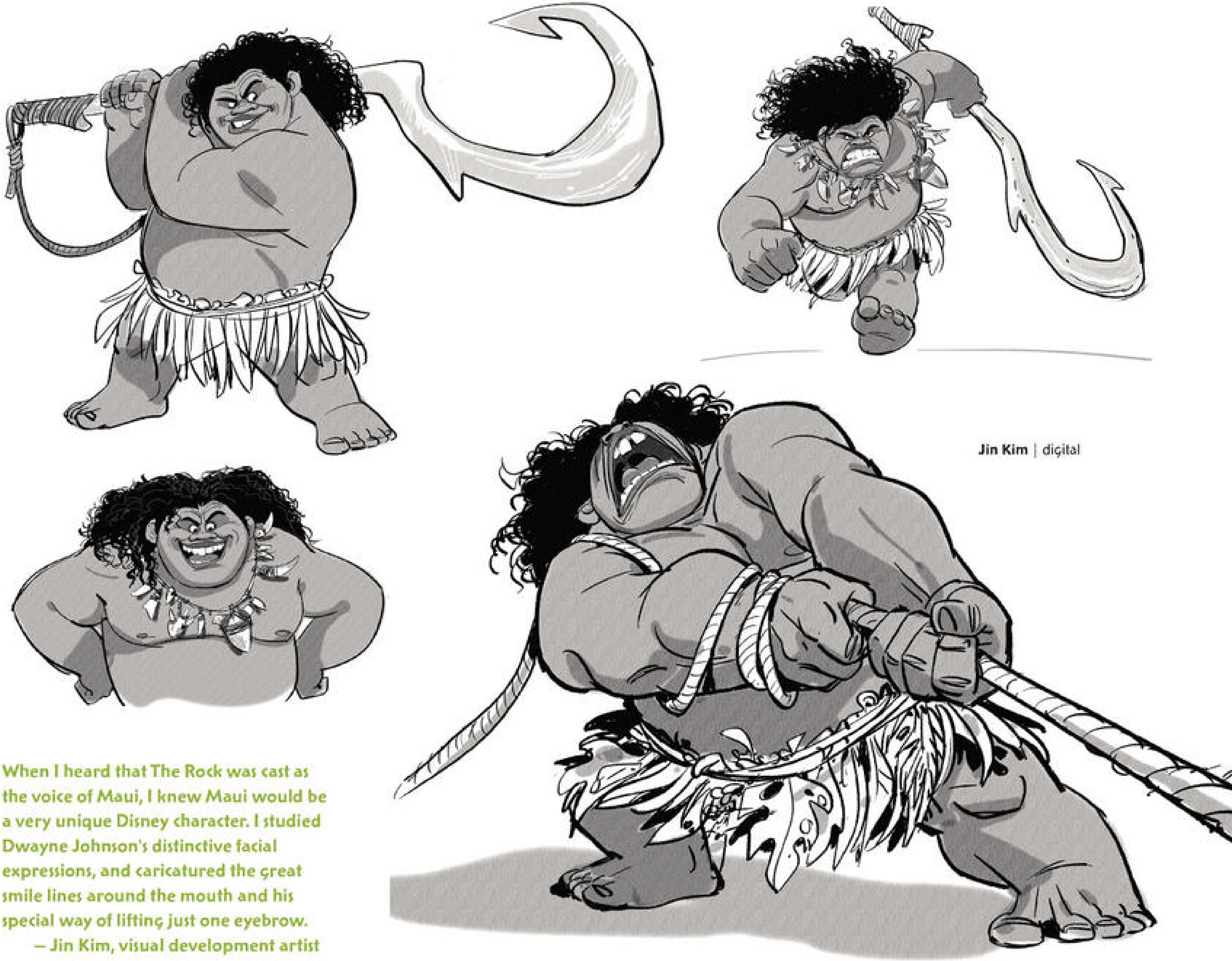




Bill Schwab | digital

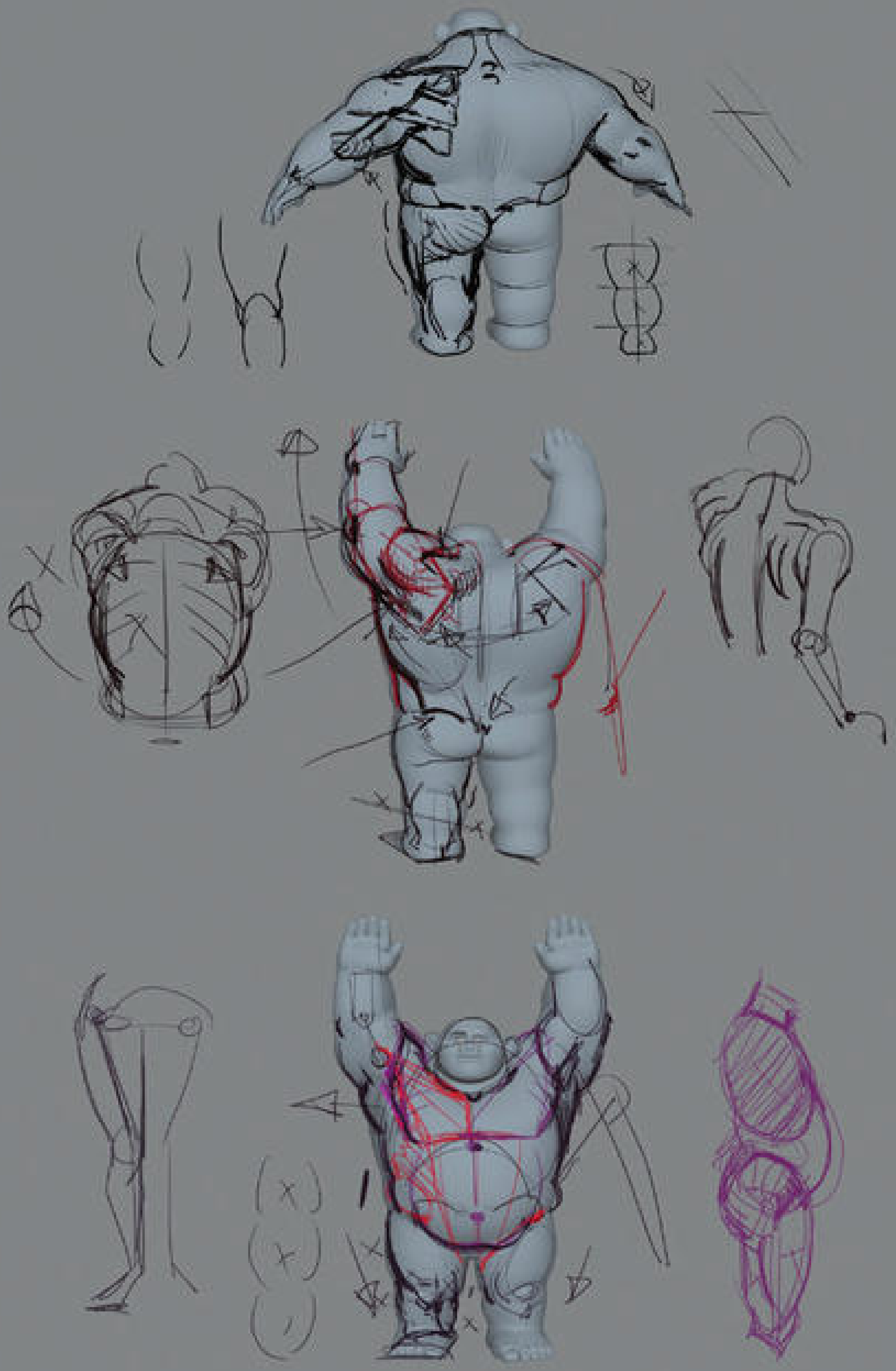
[Visual development artist] Jin Kim's drawings for Maui are so appealing and so magical, you can't look away from them.

– Ron Clements, director

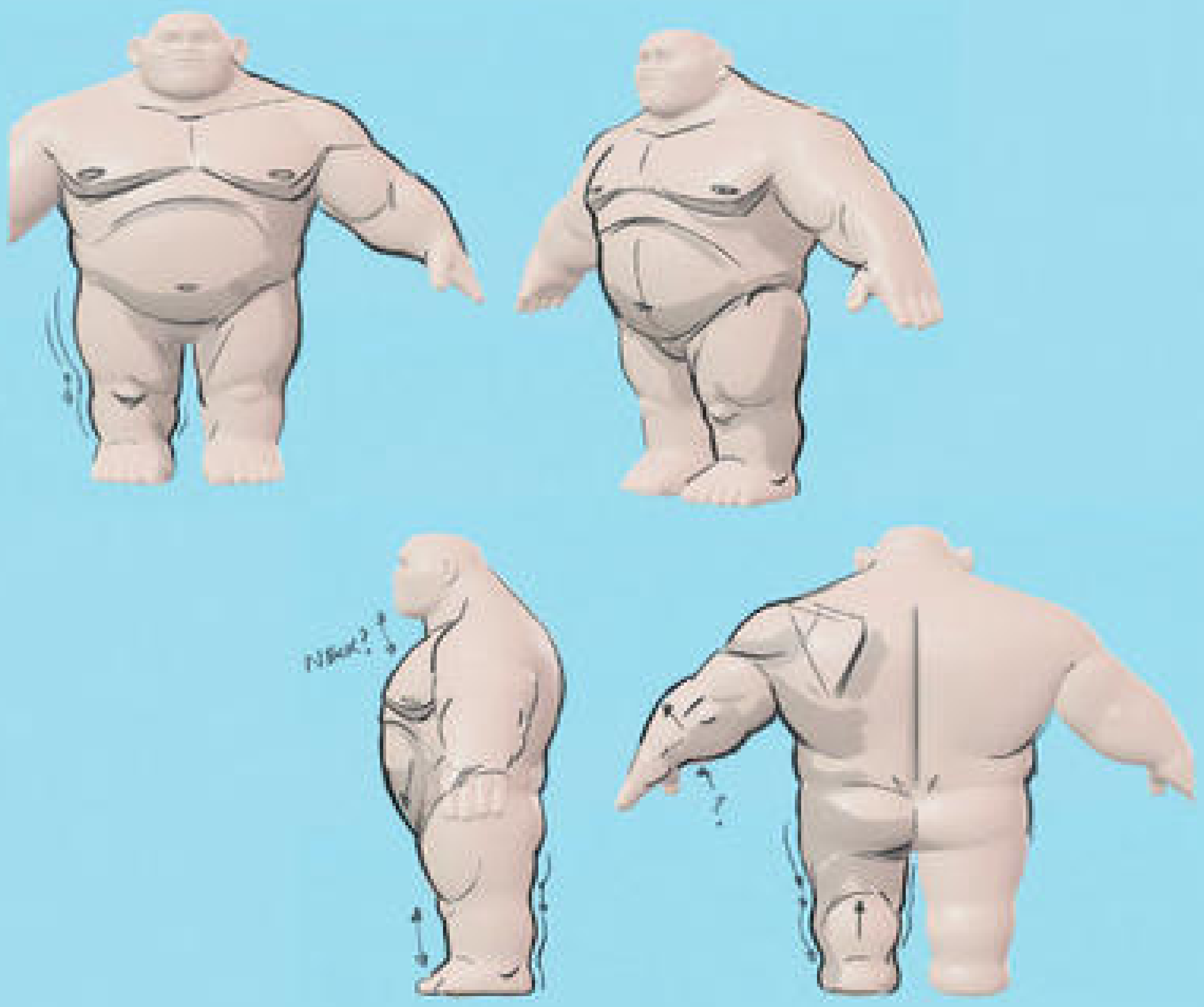


Jin Kim | digital

When I heard that The Rock was cast as the voice of Maui, I knew Maui would be a very unique Disney character. I studied Dwayne Johnson's distinctive facial expressions, and caricatured the great smile lines around the mouth and his special way of lifting just one eyebrow.
— Jin Kim, visual development artist

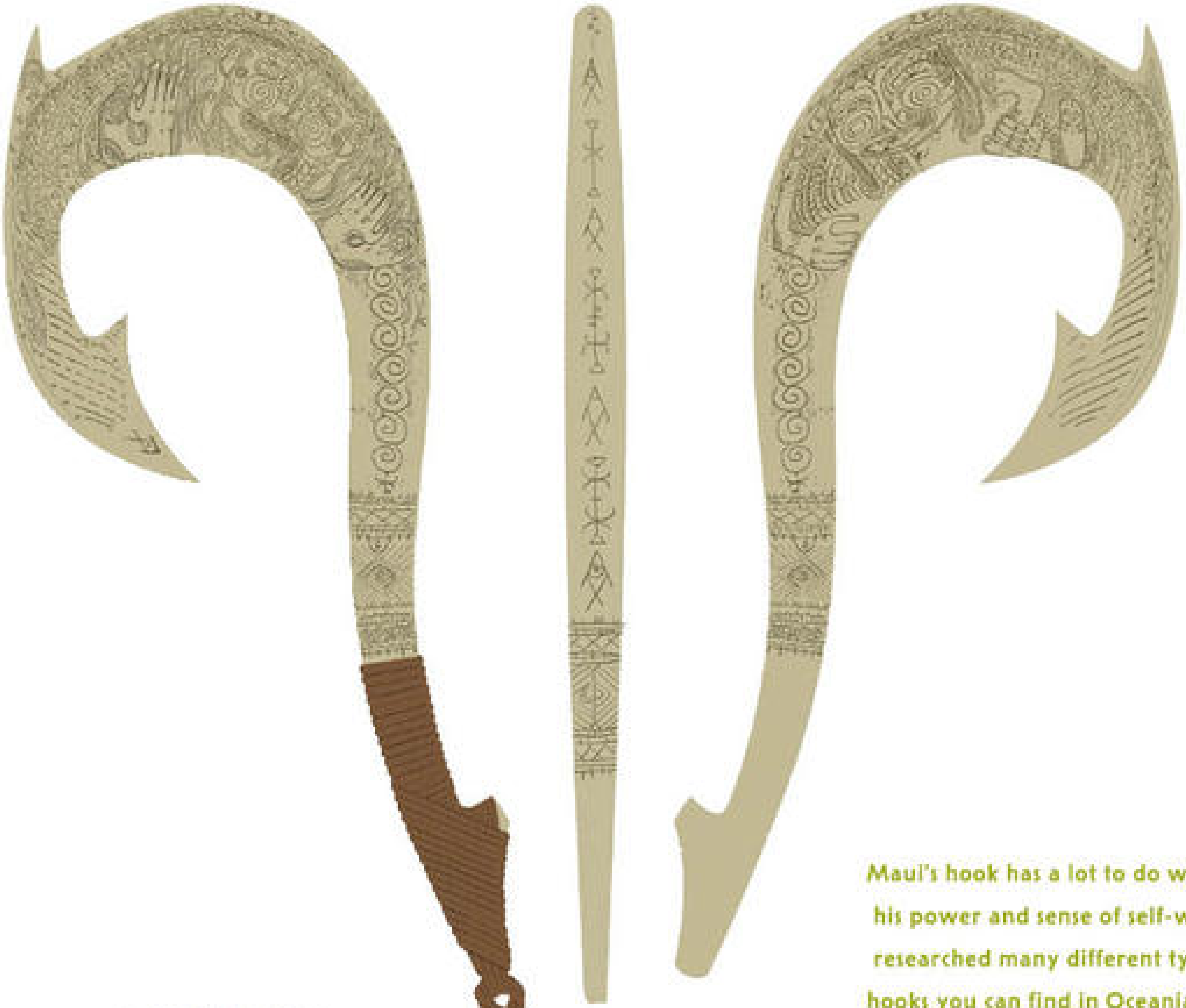


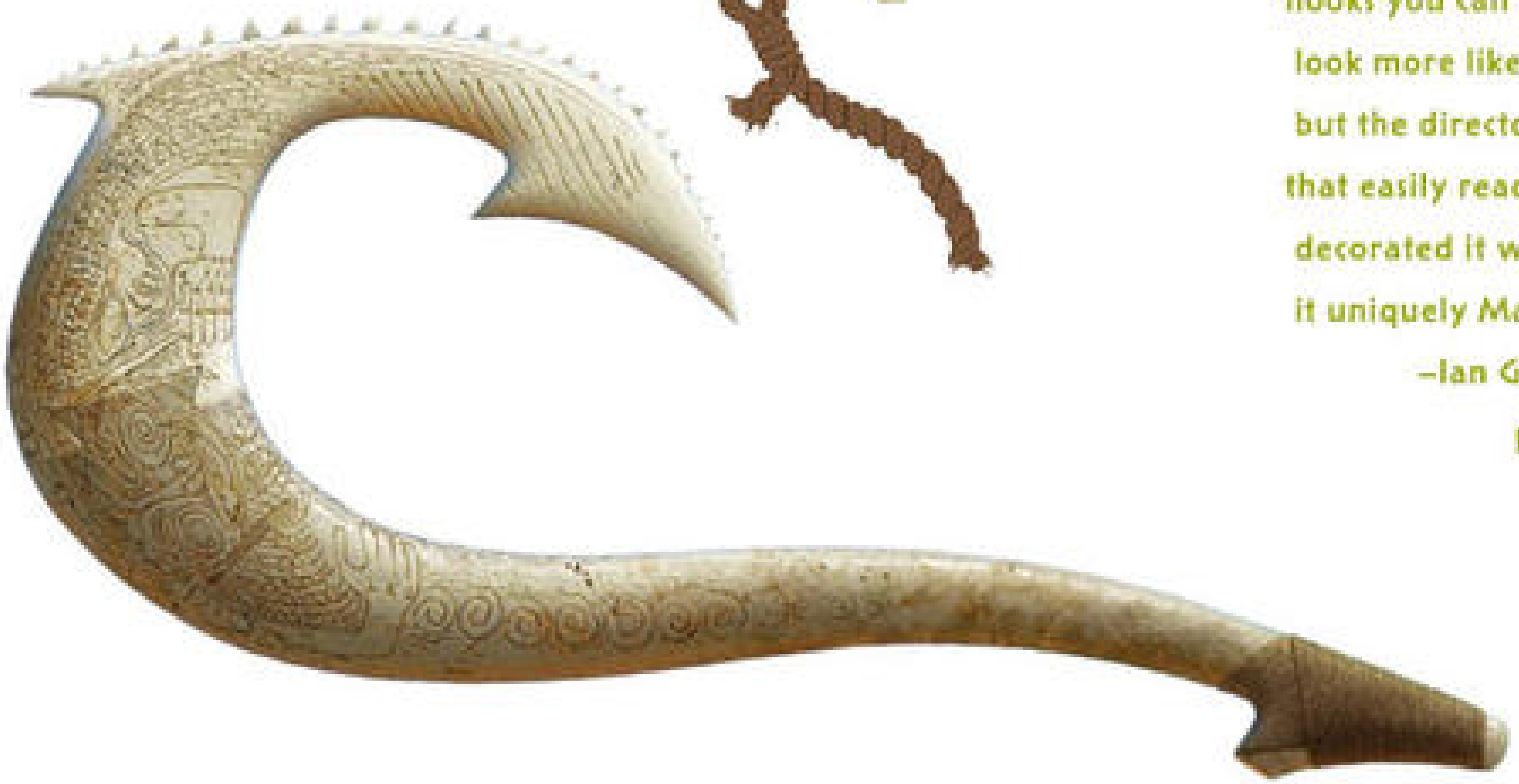
Karl Gnass | digital drawover



Chad Stubblefield, Bill Schwab | digital sculpt, digital drawover

Jin Kim | digital





Maui's hook has a lot to do with his power and sense of self-worth. I researched many different types of hooks you can find in Oceania. Some look more like a string with a spike, but the directors wanted something that easily reads as a fishhook. We decorated it with scrimshaw to make it uniquely Maui's.

–Ian Gooding,

production designe

Lisa Keene | digital

Jin Kim | digital

Maui lives on an island that has plants but no trees, so he can only use plants for clothing. He's been on the island a long time and doesn't expect visitors, so his leaf skirt is barely enough to cover him up.
–Ian Gooding, production designer

Bill Schwab | digital

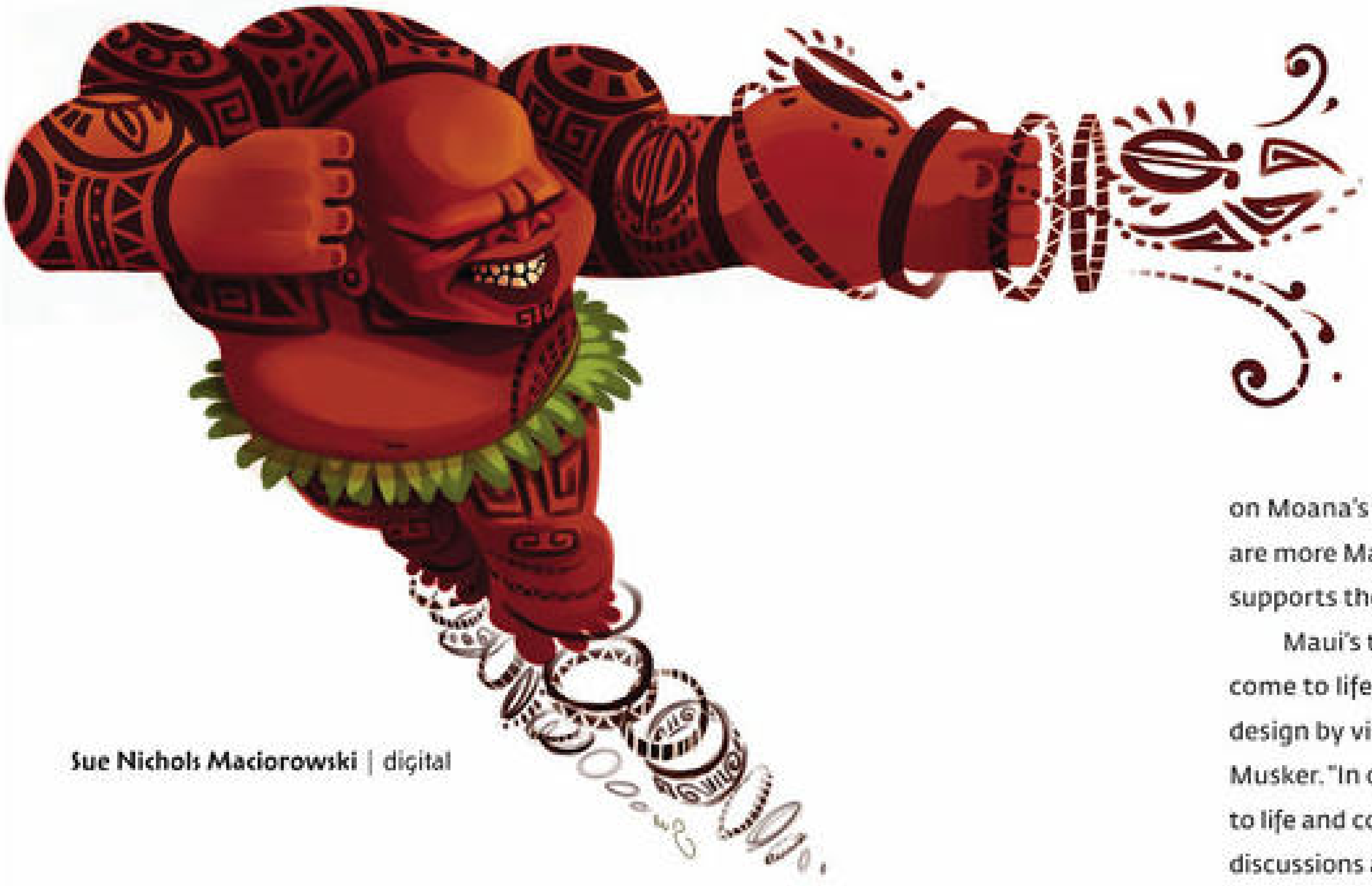
Bill Schwab | digital

Bill Schwab | digital

Chad Stubblefield | digital sculpt

Maui is the most fun character I've worked on. His personality is unique, since he is this demigod, but he's not this pristine or flawless person. I think of him as someone who lives in the moment.
— Mack Kablan,
animation supervisor

MINI MAUI



Sue Nichols Maciorowski | digital

The idea of Maui's tattoos coming to life evolved into a specific character we called Mini Maui. As the story progressed, we found that this alter ego was a great source of animation and entertainment, and he had his own relationship with Moana separate from Maui's.
– Ron Clements, director

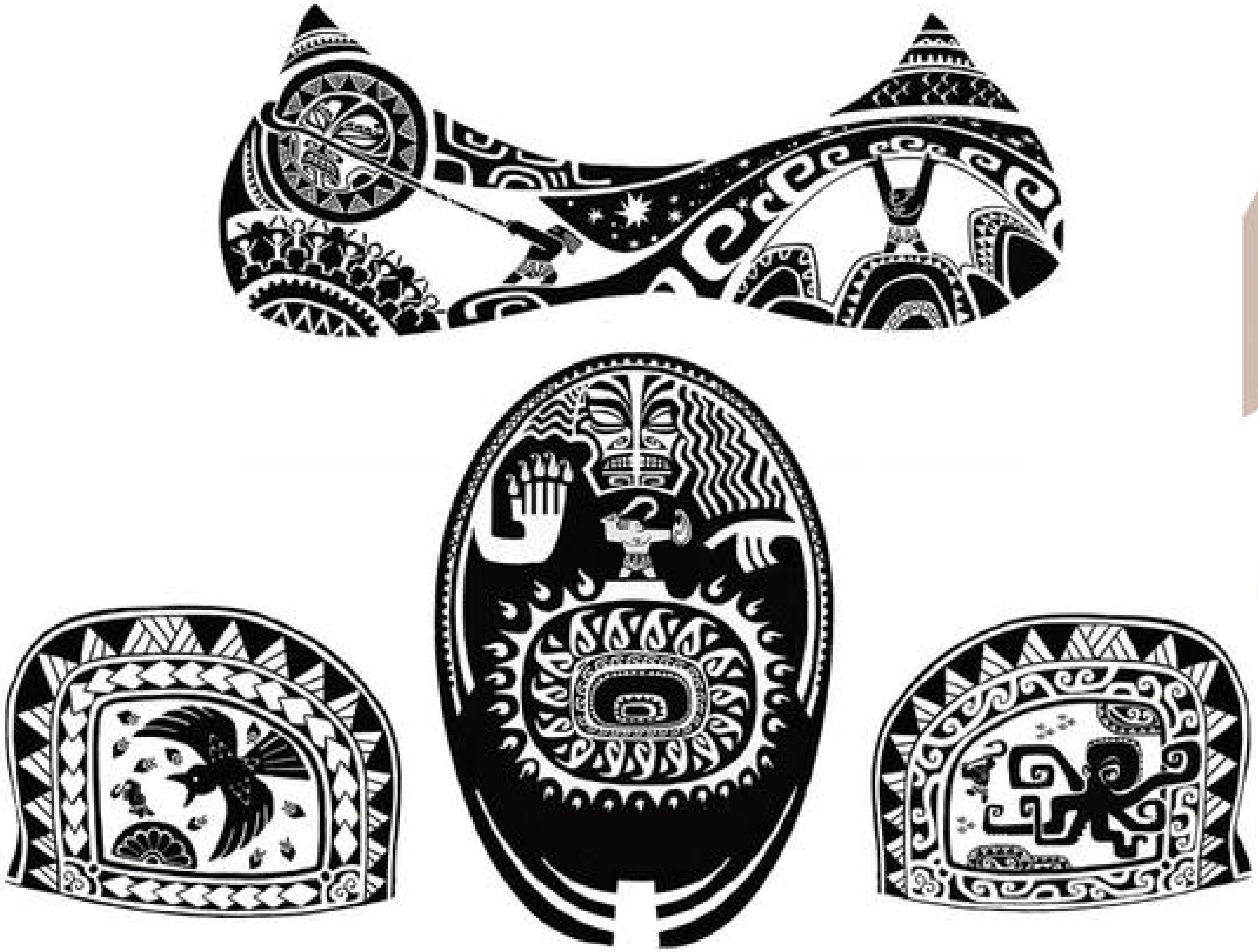
Another unique aspect of Maui in the movie is his tattoos. "Maui is a walking billboard of his stories and achievements," explains producer Osnat Shurer. He is covered almost head to toe in stories of his feats and defeats, including the myths of Maui creating the coconut tree by beheading an eel, lassoing the sun, defeating an eight-eyed bat, and being chucked into the sea by his mother in his own origin story. "An enormous amount of work went into Maui's tattoos from a storytelling standpoint," explains production designer Ian Gooding. "Trying to pin down which tales we needed to tell was difficult."

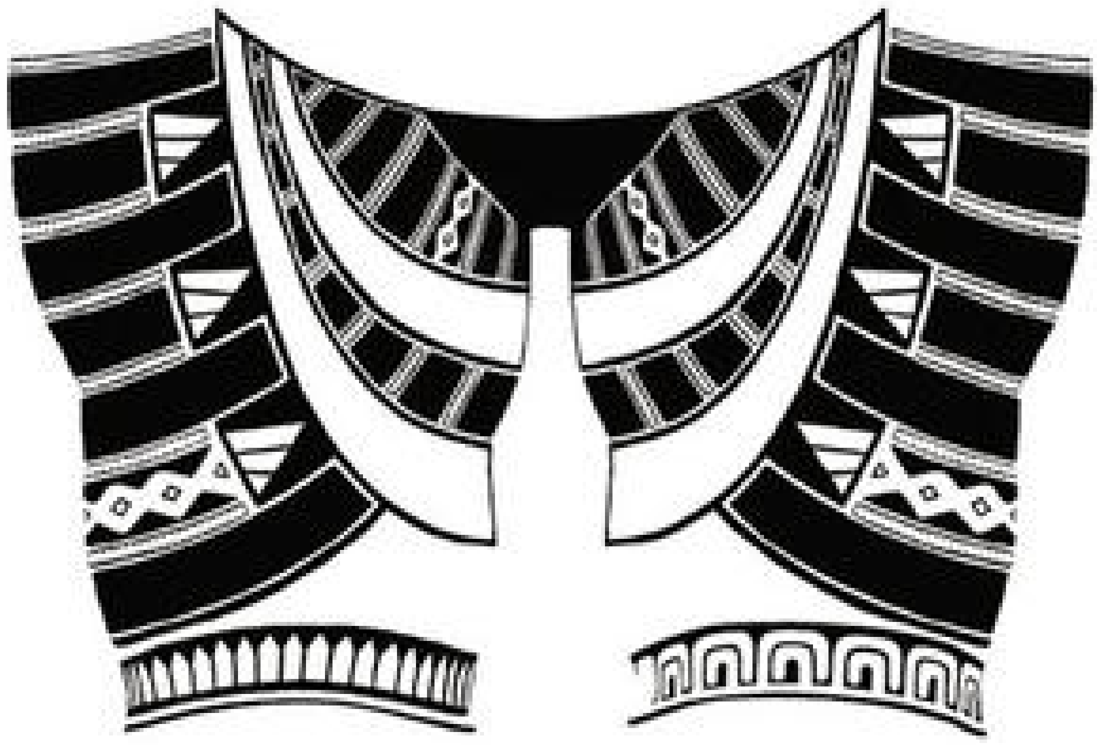
Once the directors had selected their favorite Maui stories, the team set about translating the myths into tattoos and picking a specific design style. Gooding turned to the islands for inspiration. "The people on Moana's island have Samoan tattoos," he explains, "while Maui's are more Marquesan and Tahitian with a more curvy aesthetic, which supports their magical nature."

Maui's tattoos are magical in the sense that many of the drawings come to life. The animated tattoos were in part inspired by an early design by visual development artist Sue Nichols, says director John Musker. "In one drawing, Sue suggested that Maui's tattoos could come to life and come right off him." This design, along with many story room discussions about the dual nature of the demigod's personality, brought one of Maui's tattoos to life as an entirely new character, affectionately named Mini Maui.

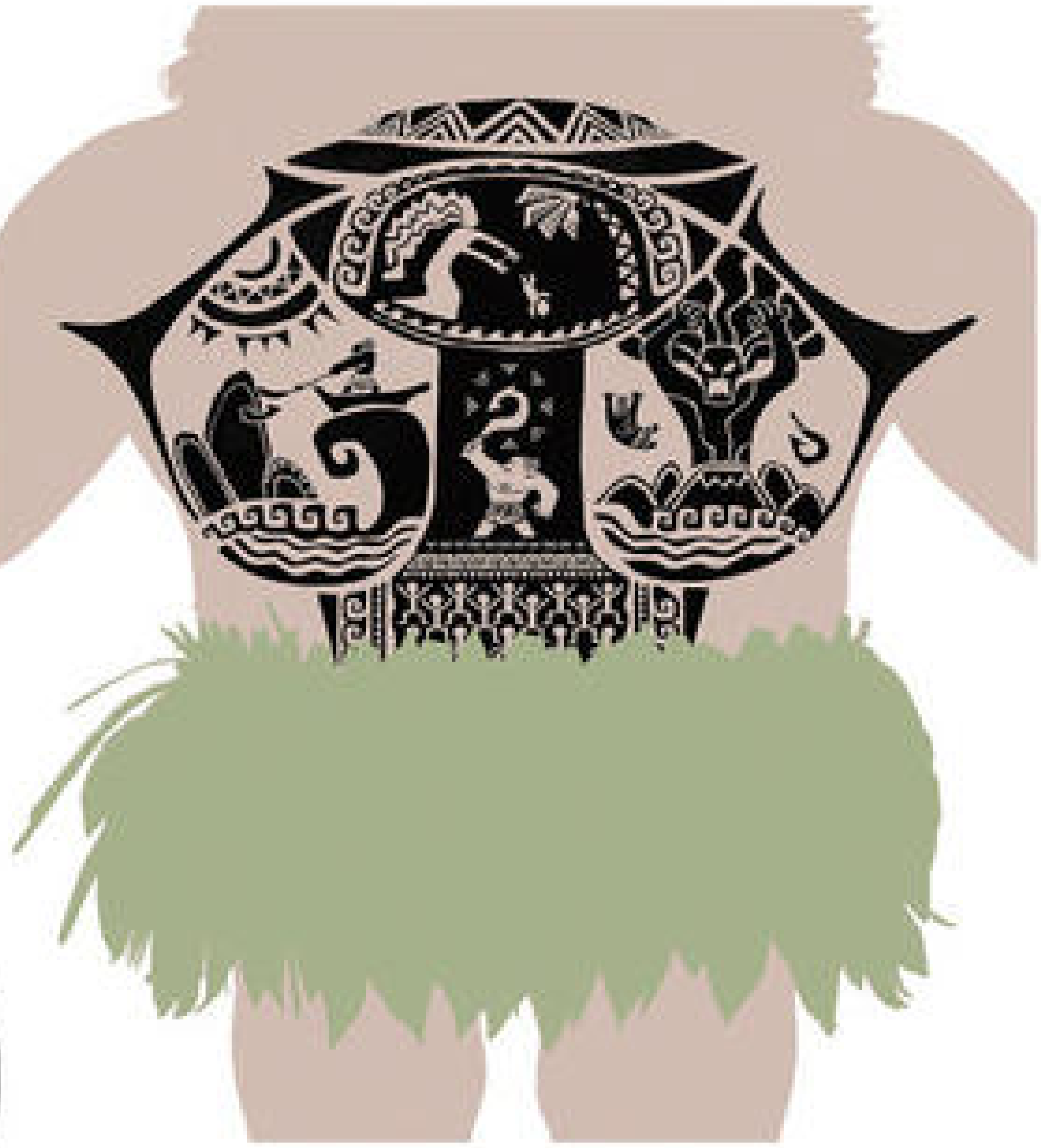
"Mini Maui is almost like a Jiminy Cricket. Except, he's not Maui's conscience, but more like his subconscious," says co-director Don Hall. Co-director Chris Williams further explains, "He's the good part of Maui that he's been trying to suppress all these thousands of years. So that even when Maui is doing his larger than life thing, you get the sense deep down that he's a good guy. Mini Maui helps give us that insight."

The role of Mini Maui has grown so much over the course of production that, as Musker explains, "Now we think about him as part of the cast, not just a design."

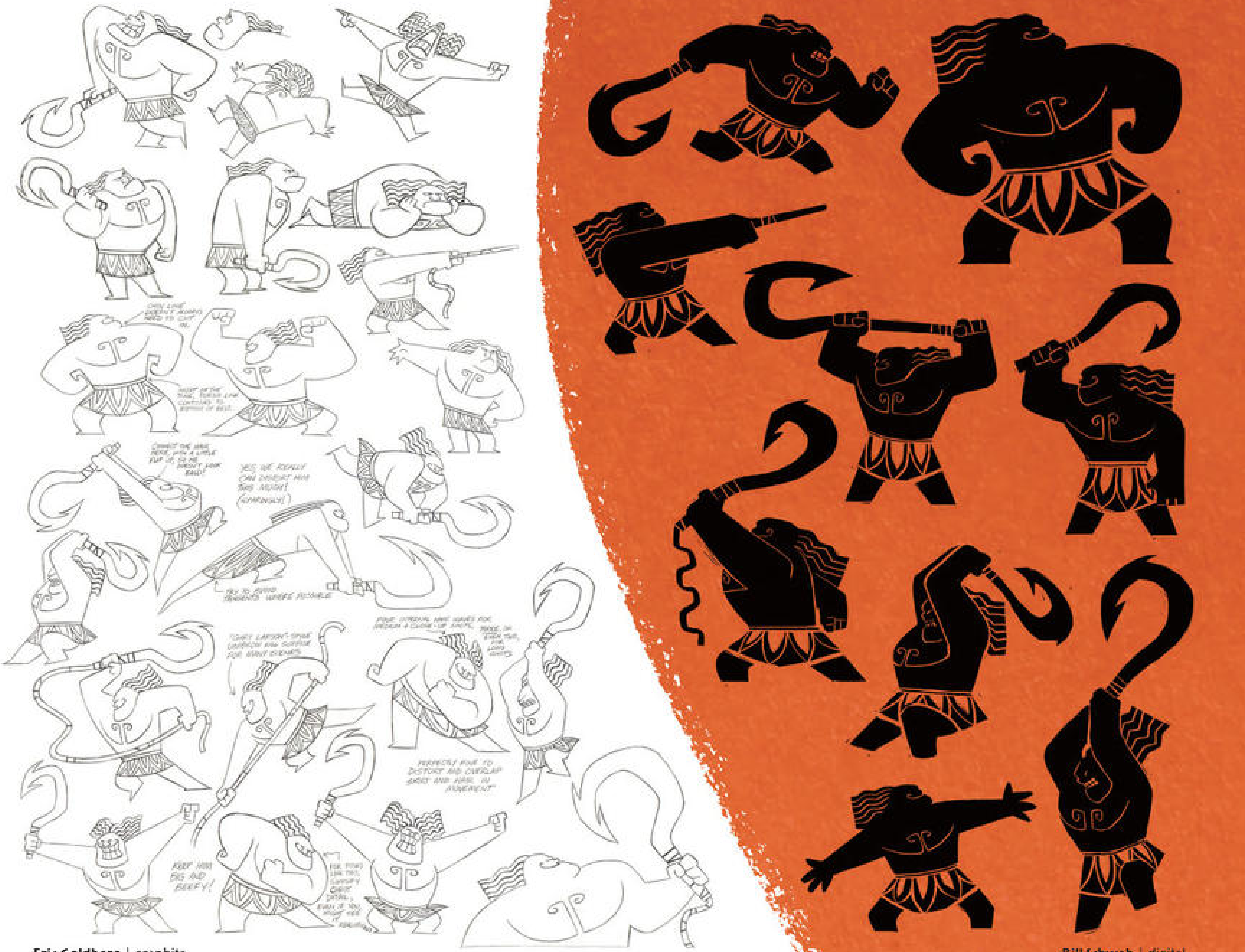




Mac George, Leighton Hickman, Kevin Nelson | digital



Leighton Hickman | digital

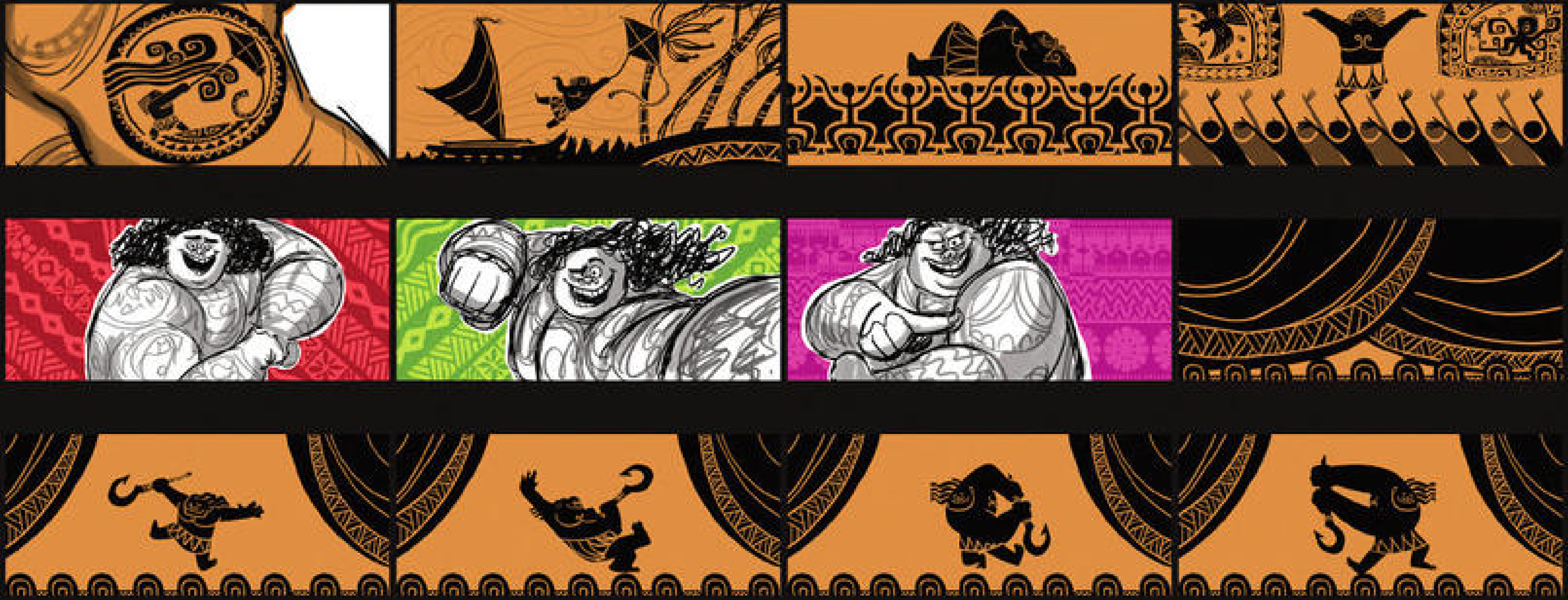

CHIN LINE DOESN'T ALWAYS NEED TO CUT IN.
SHORT OF THE TUSK, TORSO LINE CONTINUES TO BOTTOM OF BELT.
CONNECT THE HAIR HERE, WITH A LITTLE FLIP UP, SO HE DOESN'T LOOK BALD!
YES, WE REALLY CAN DISTORT HIM THIS MUCH! (SPARINGLY)
TRY TO AVOID TANGENTS WHERE POSSIBLE
"GARY LARSON"-STYLE UNIBROW CAN SUFFICE FOR MANY EXTREMES.
FOUR TYPICAL HAIR SHAPES FOR MEDIUM + CLOSE-UP SHOTS. THREE, OR EVEN TWO, FOR LONG SHOTS
PERFECTLY FINE TO DISTORT AND OVERLAP BODY AND HAIR IN MOVEMENT
KEEP HIM BIG AND BEEFY!
FOR POSES LIKE THIS, SIMPLIFY [illegible] DETAIL, EVEN IF YOU [illegible]

Eric Goldberg | graphite

Bill Schwab | digital

Some story artists contribute to the design just by imagining the world into being. Maui's tattoo designs were inspired by [story artist] Jeff Ranjo's boards.
— Osnat Shurer, producer

Mac George, Leighton Hickman, Kevin Nelson | digital



storyboards | **Jeff Ranjo** | digital

MAUI THE SHAPESHIFTER

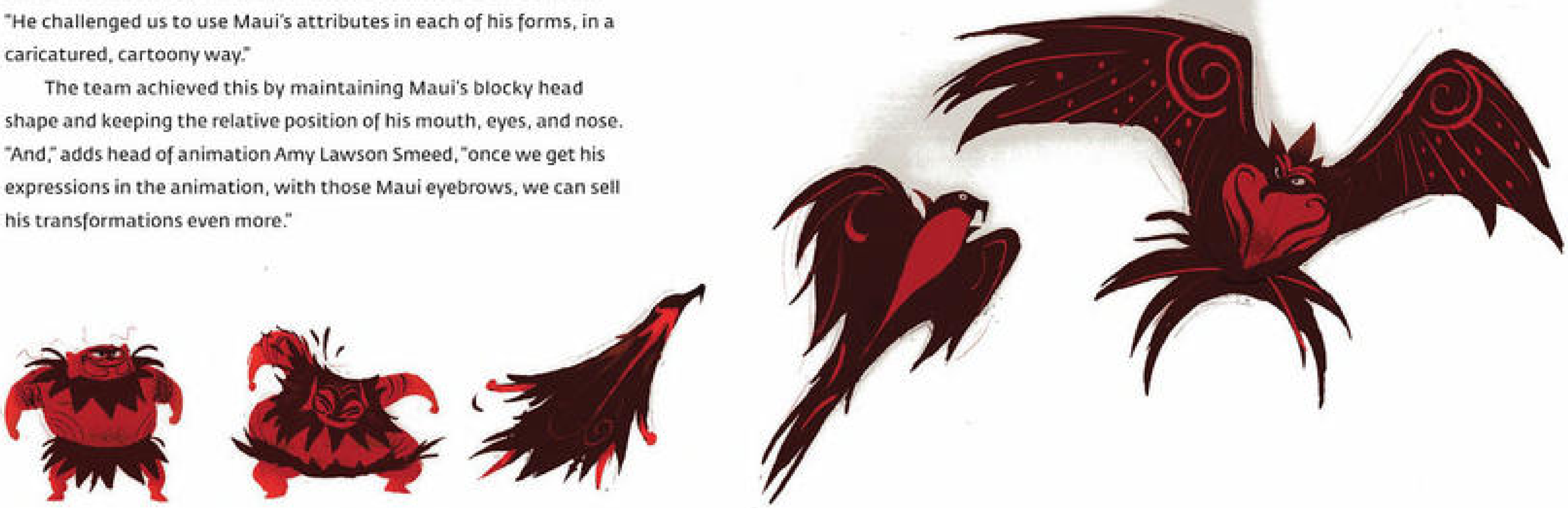
With his fishhook in hand, the demigod Maui has the impressive ability to shapeshift from his human form, into a bird or a shark or a bug, to name a few. The catch, however, is that Maui must have his hook in order to transform. When Moana meets the demigod, he's been stranded on a desolate island without it. At Moana's insistence, the two set off to find it and restore the demigod's powers.

Not only was the need to go get Maui's hook a complication in the story for the main characters, but also Maui's ability to transform added yet another layer of complexity to Maui's design for the whole artistic team. "We've done hand-drawn movies with shapeshifters, like the genie in *Aladdin*," explains director John Musker. "But in the computer animation world, you have to build all these different models, which is way more complex than just doing different drawings."

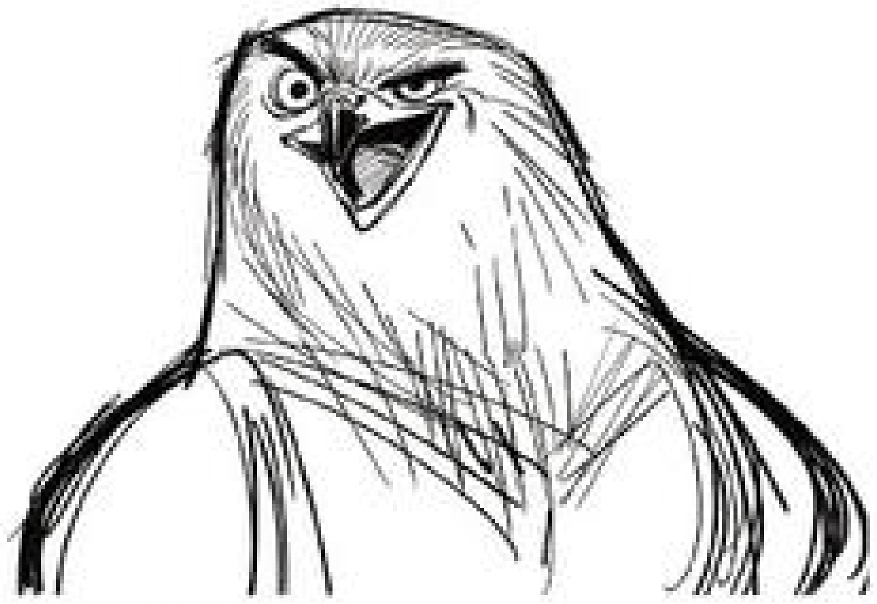
In addition, the team needed to caricature the bird, shark, or bug in a way that was still clearly Maui. "[Executive producer] John Lasseter really pushed us on this and pointed to Merlin's transformations from *Sword in the Stone*," explains art director of characters Bill Schwab. "He challenged us to use Maui's attributes in each of his forms, in a caricatured, cartoony way."

The team achieved this by maintaining Maui's blocky head shape and keeping the relative position of his mouth, eyes, and nose. "And," adds head of animation Amy Lawson Smeed, "once we get his expressions in the animation, with those Maui eyebrows, we can sell his transformations even more."

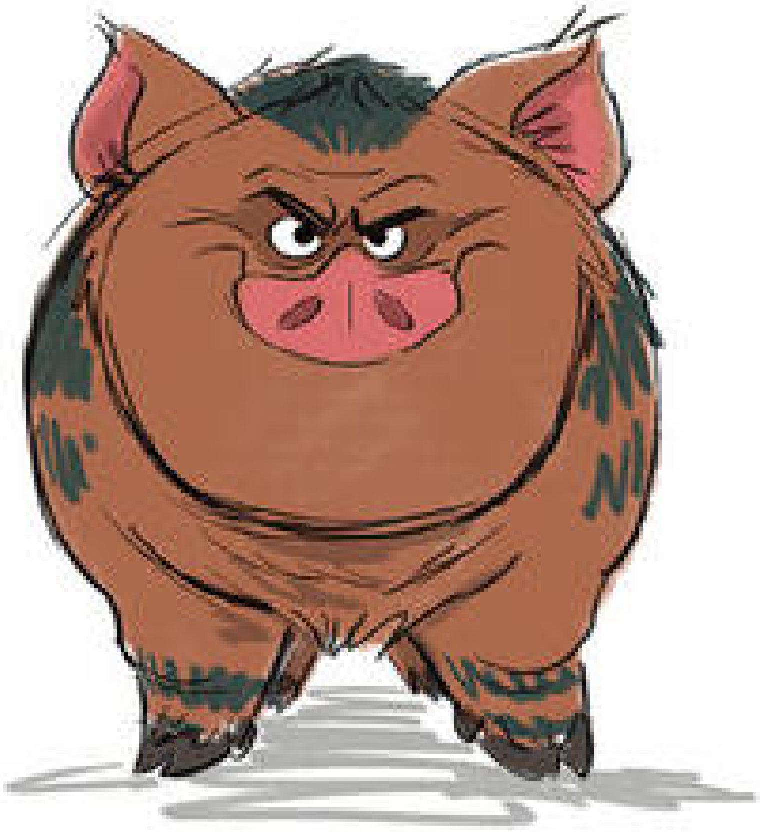
Jin Kim | digital



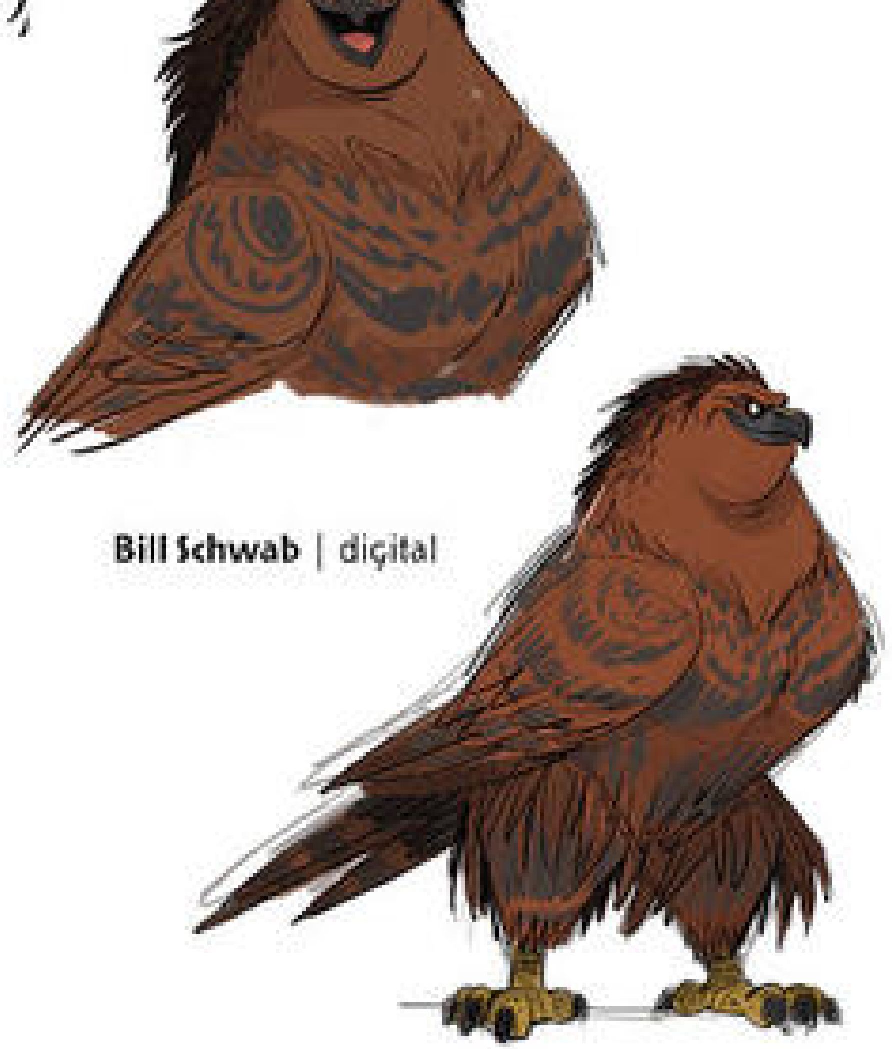
Guillaume Fesquet | digital



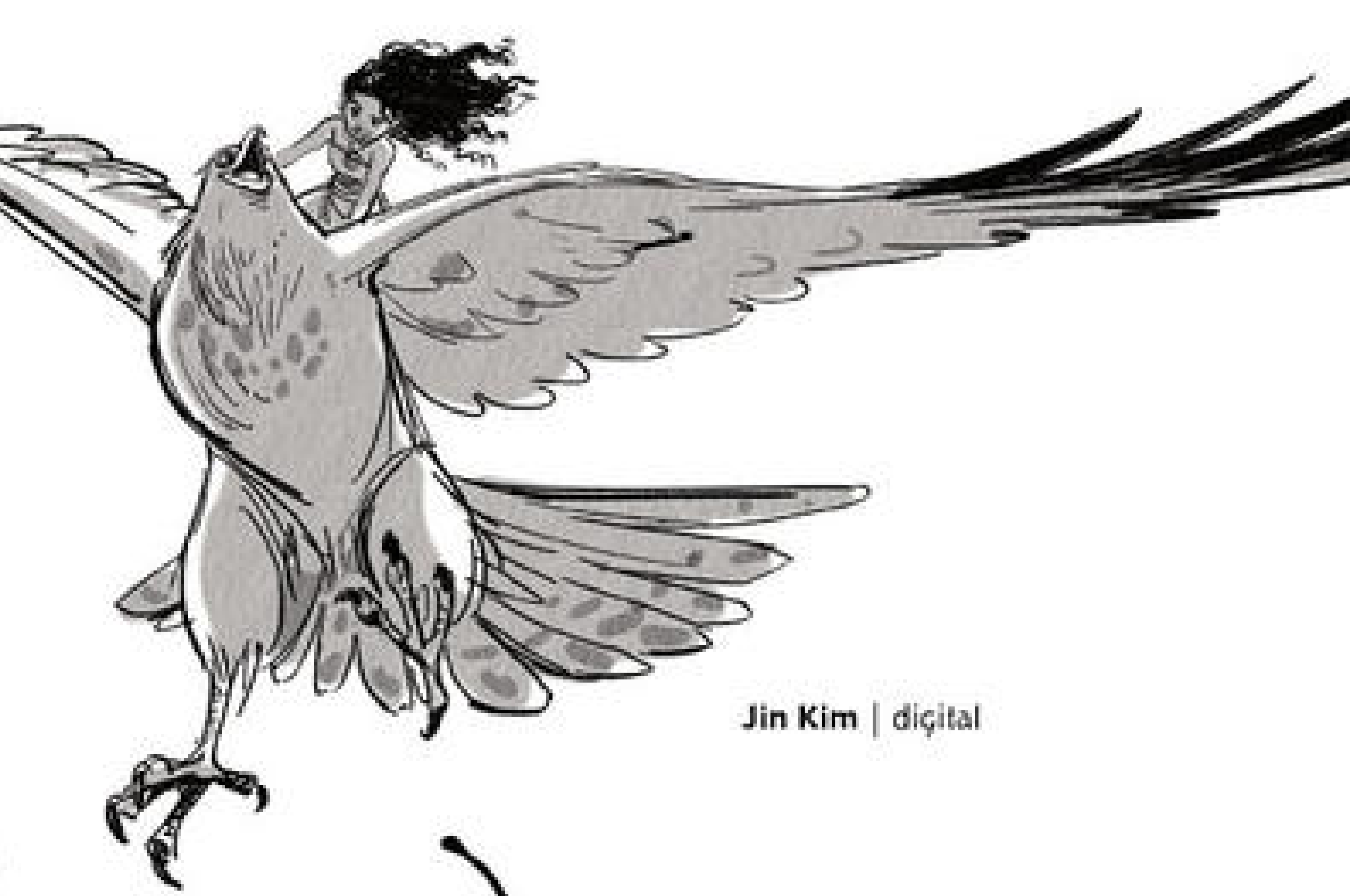
Jin Kim | digital



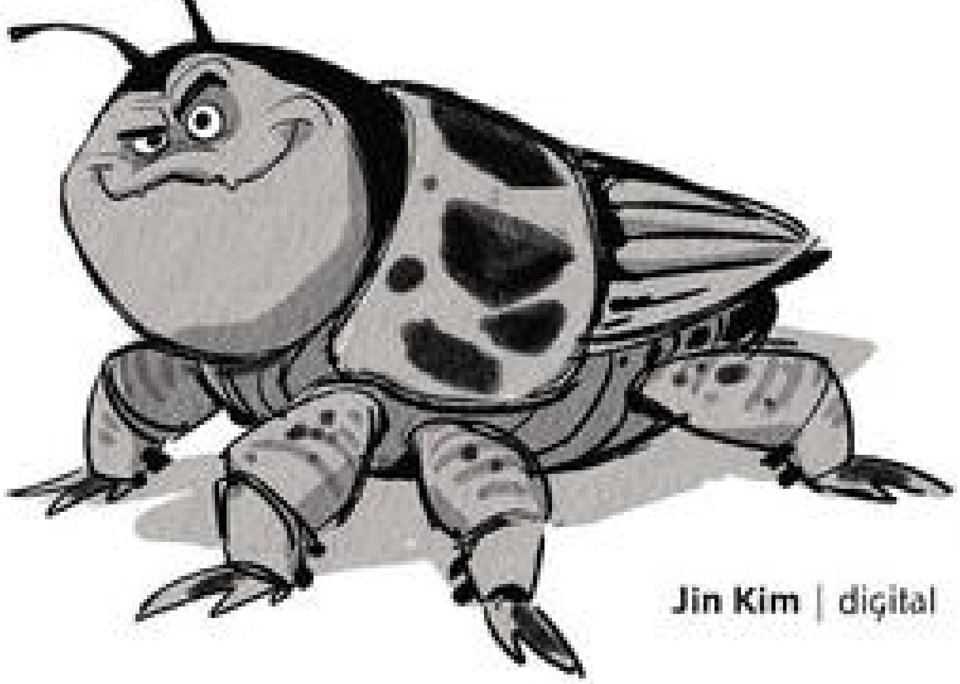
Bill Schwab | digital



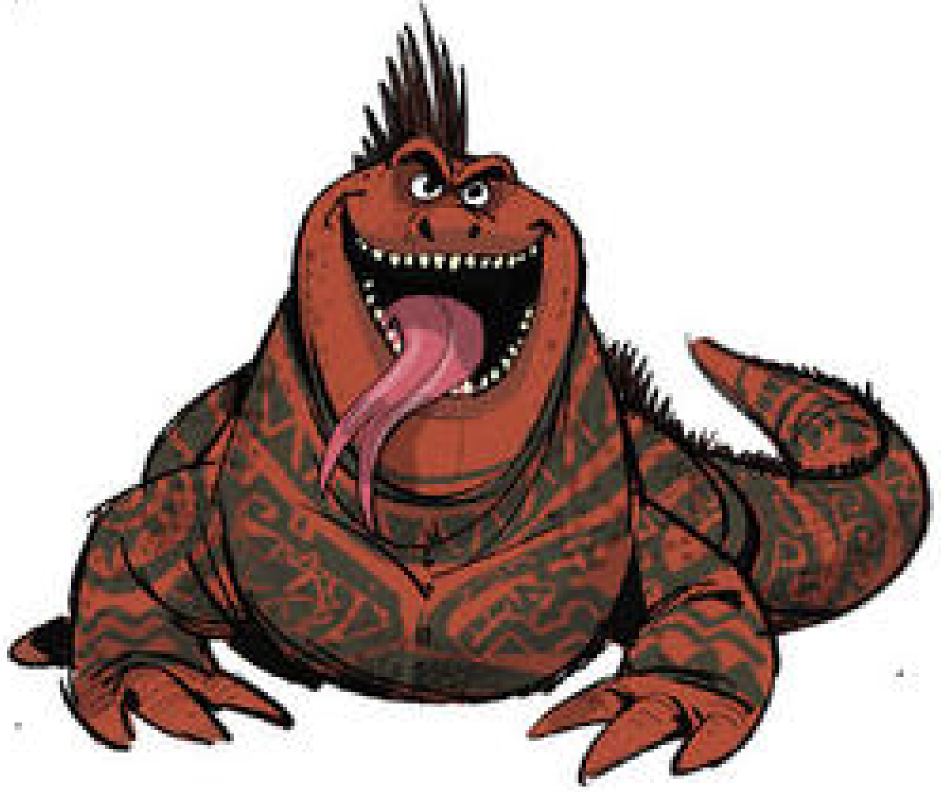
Bill Schwab | digital



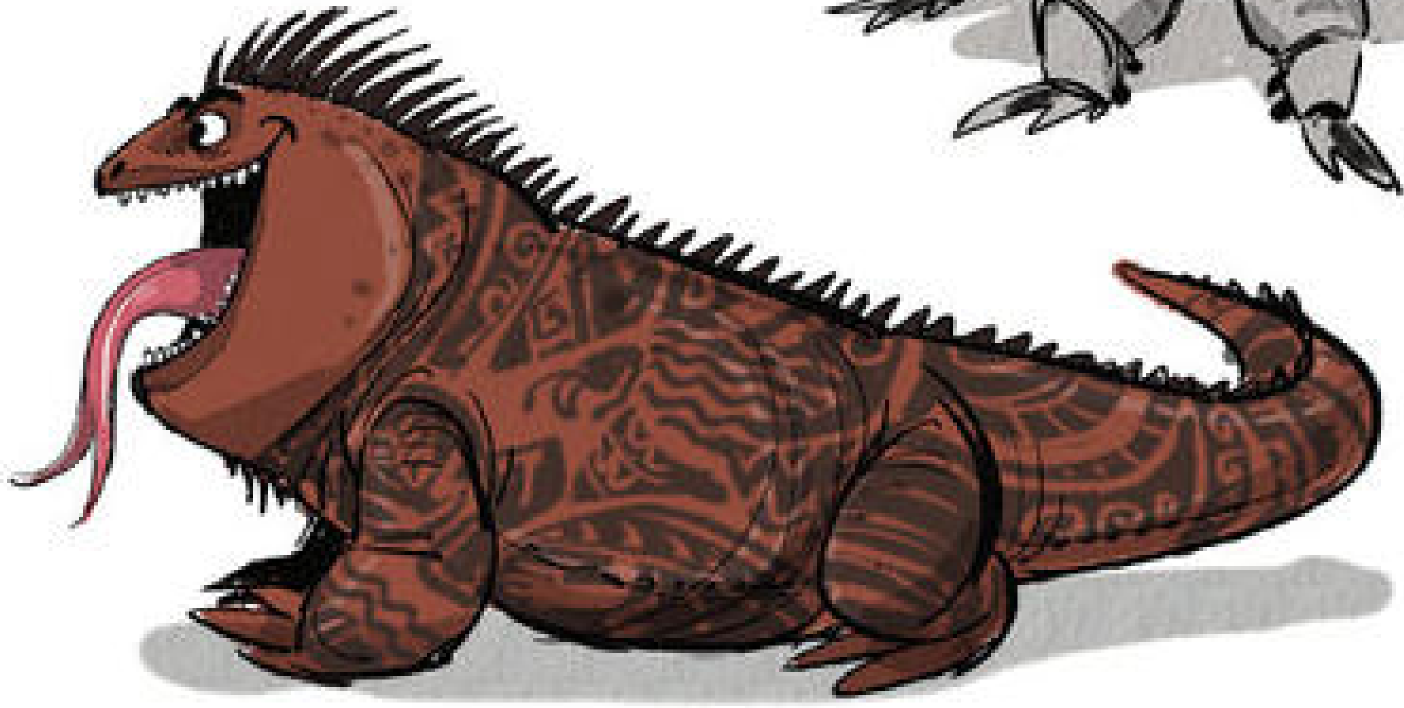
Jin Kim | digital



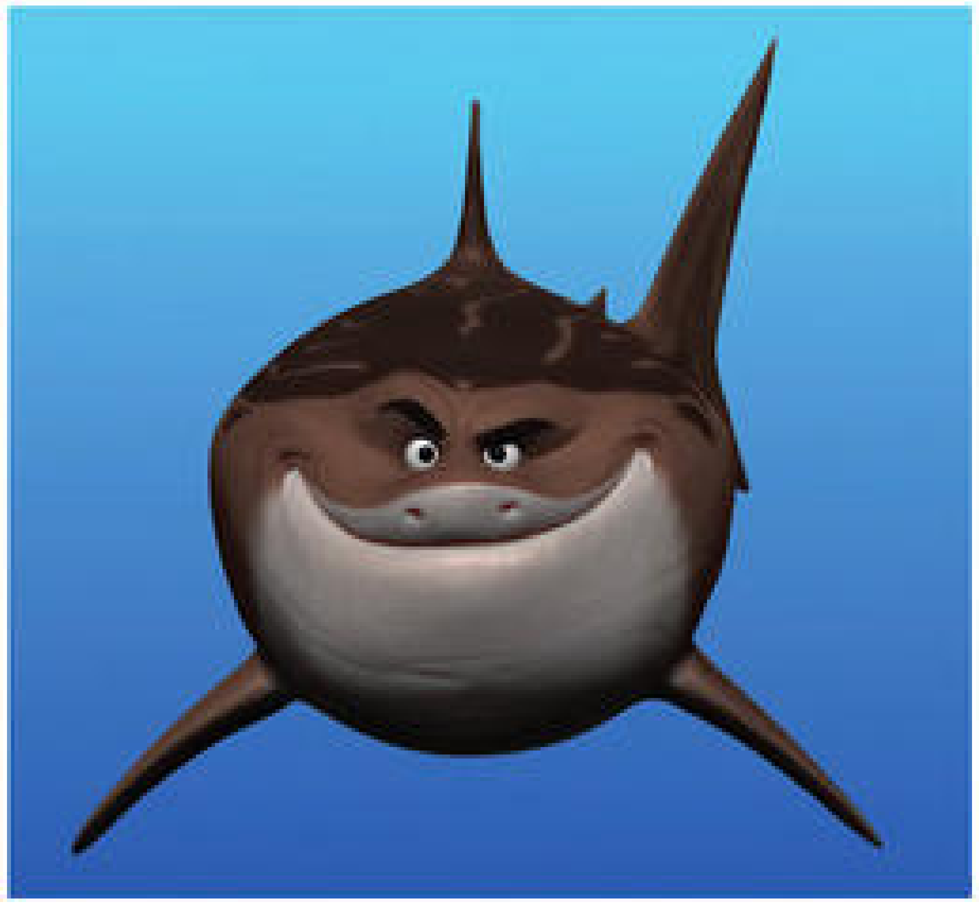
Jin Kim | digital



Jin Kim | digital



Jin Kim | digital



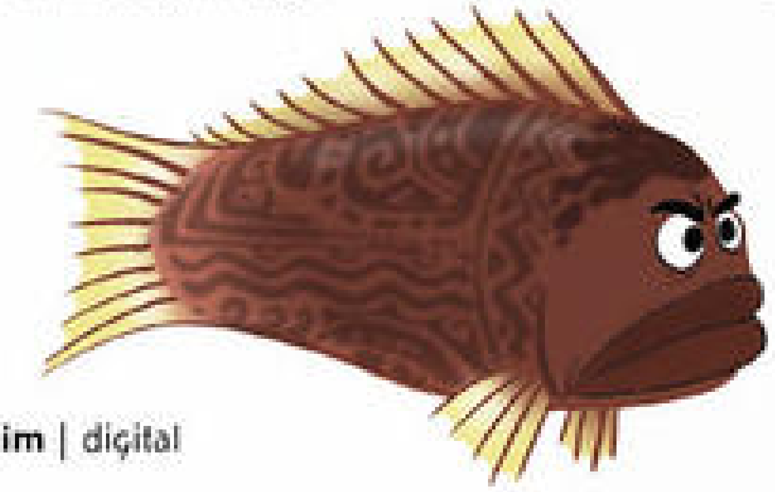
Chad Stubblefield | digital sculpt

Jin Kim | digital

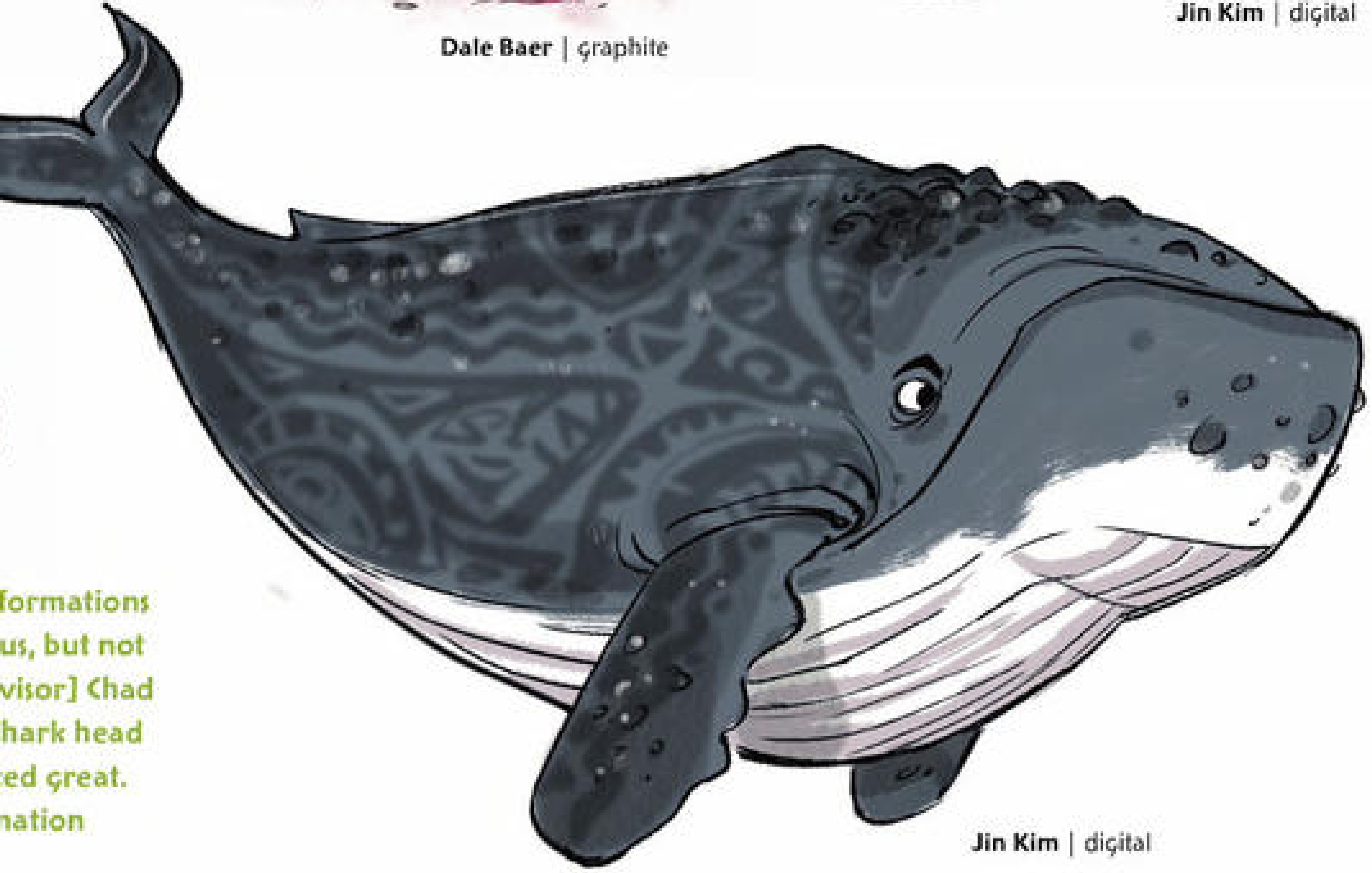
Jin Kim | digital

Dale Baer | graphite

Sergi Caballer Garcia | digital sculpt

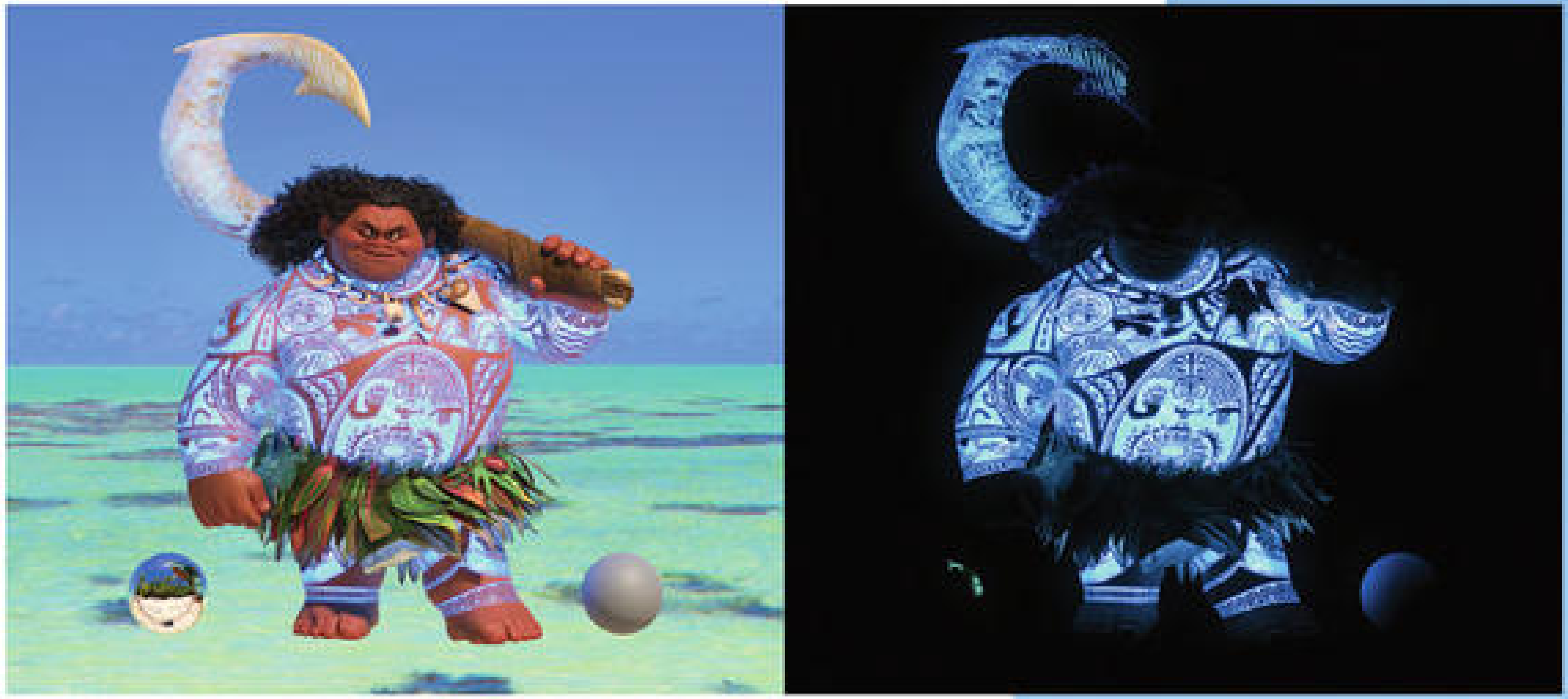


Jin Kim | digital



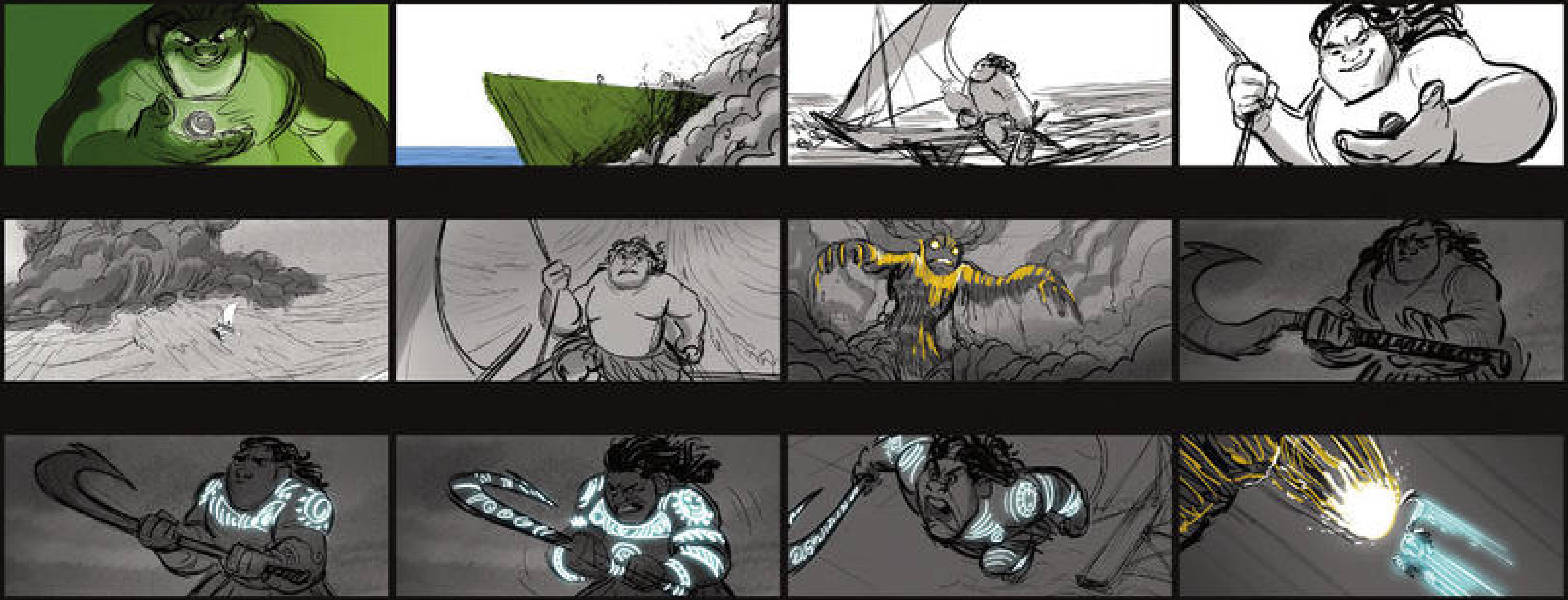
Jin Kim | digital

When we first started designing Maui's transformations into half-hawk, half-shark, it looked ridiculous, but not in a good, funny way. Then [modeling supervisor] Chad Stubblefield took a pass at it, combining the shark head with the rest of the Maui body, and that looked great.
– Amy Lawson Smeed, head of animation



Daniel Rice | digital

Maui's tattoos start to glow on his
body before he transforms into
one of his many different forms.
—Marlon West,
head of effects



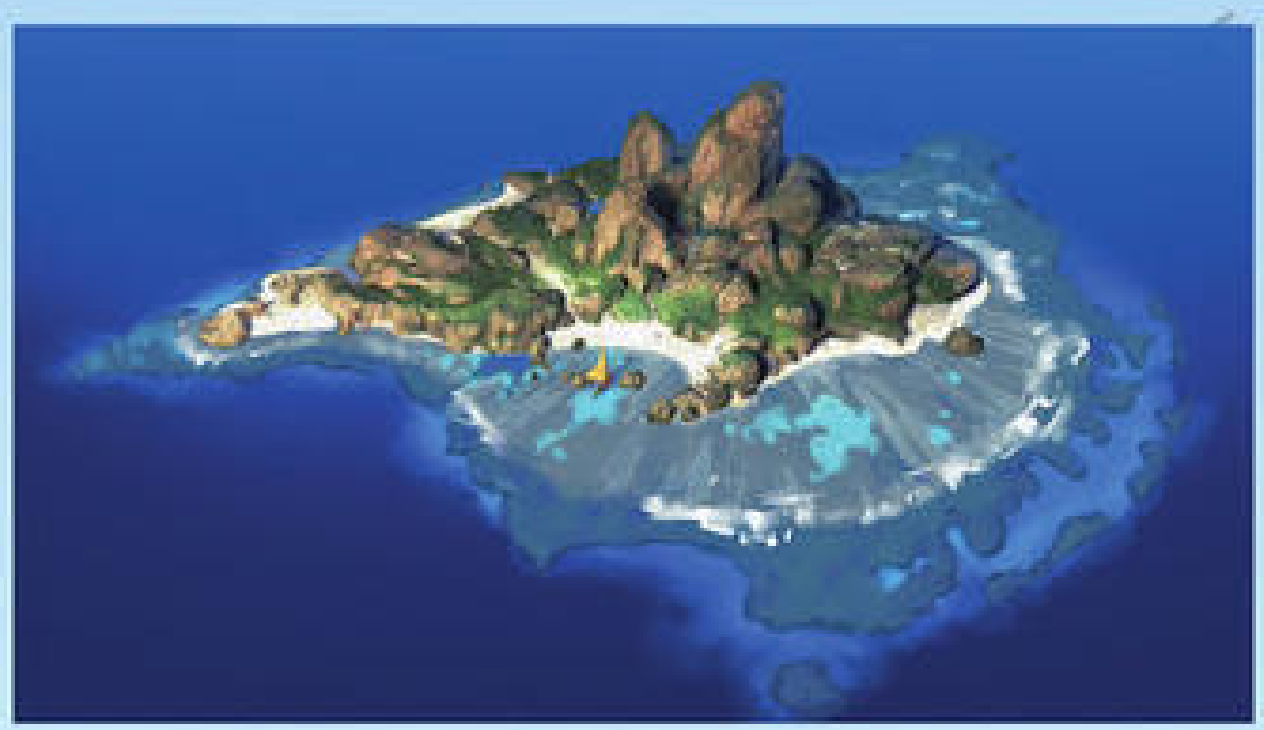
storyboards | **David Pimentel** | digital

LOST ISLAND

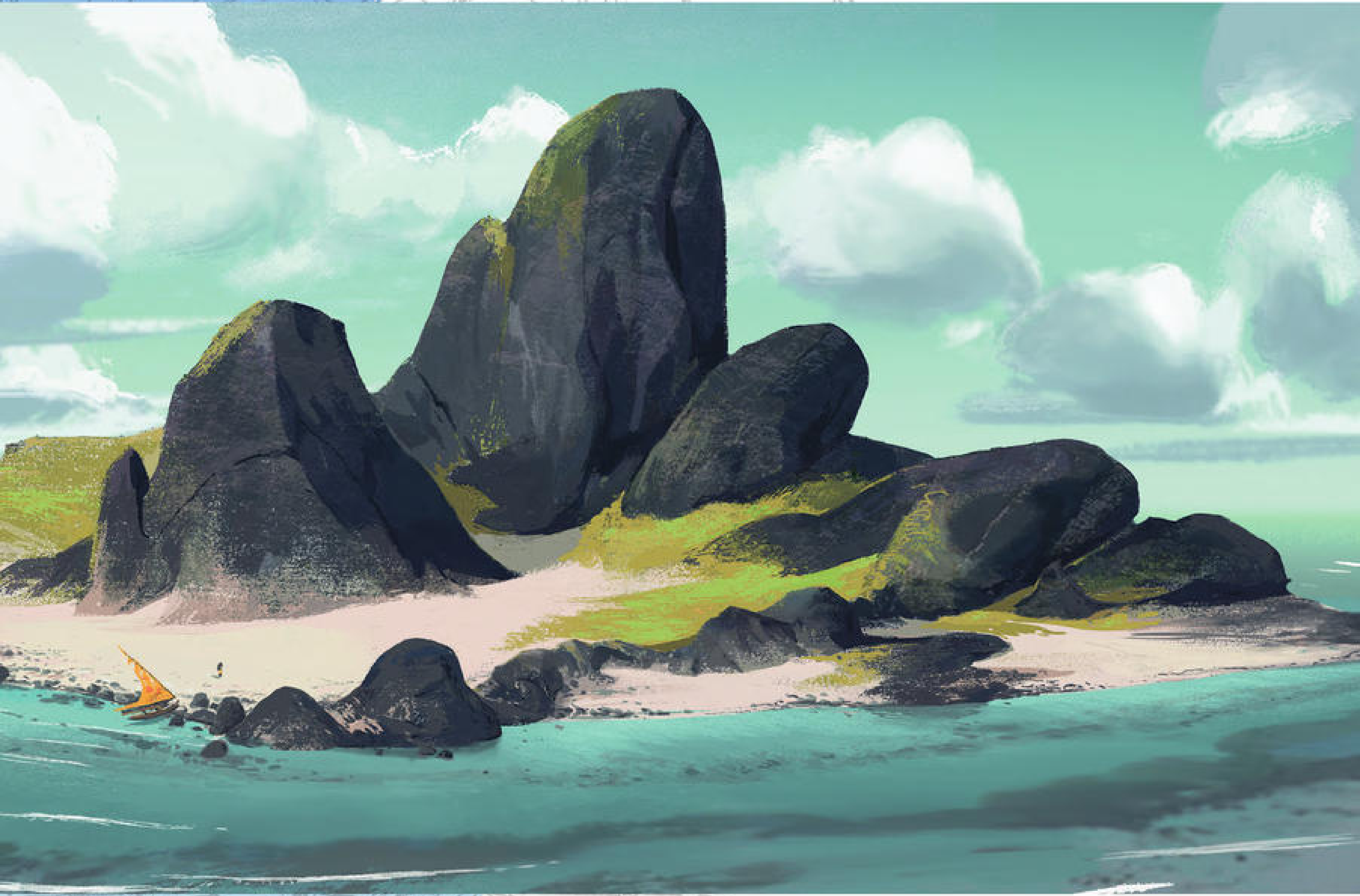
In contrast to Moana's lush, green home island of Motunui, Maui's island, explains art director of environments Andy Harkness, is "a sun-baked, desolate place with no trees. There's nothing big enough on it to make a boat to escape." Maui has been trapped on this lonely sandspit for thousands of years, with only a cave to live in.

In designing the island, Harkness and the team looked to create the polar opposite of Motunui. The origin of the design began when, as Harkness explains, "[visual development artist] Kevin Nelson did a sketch with an inverted, almost spooned-out shape. It was nice because it was the opposite of Motunui. I did a clay sculpt based on that, and then photographed it." These images then became the design basis for Maui's island.

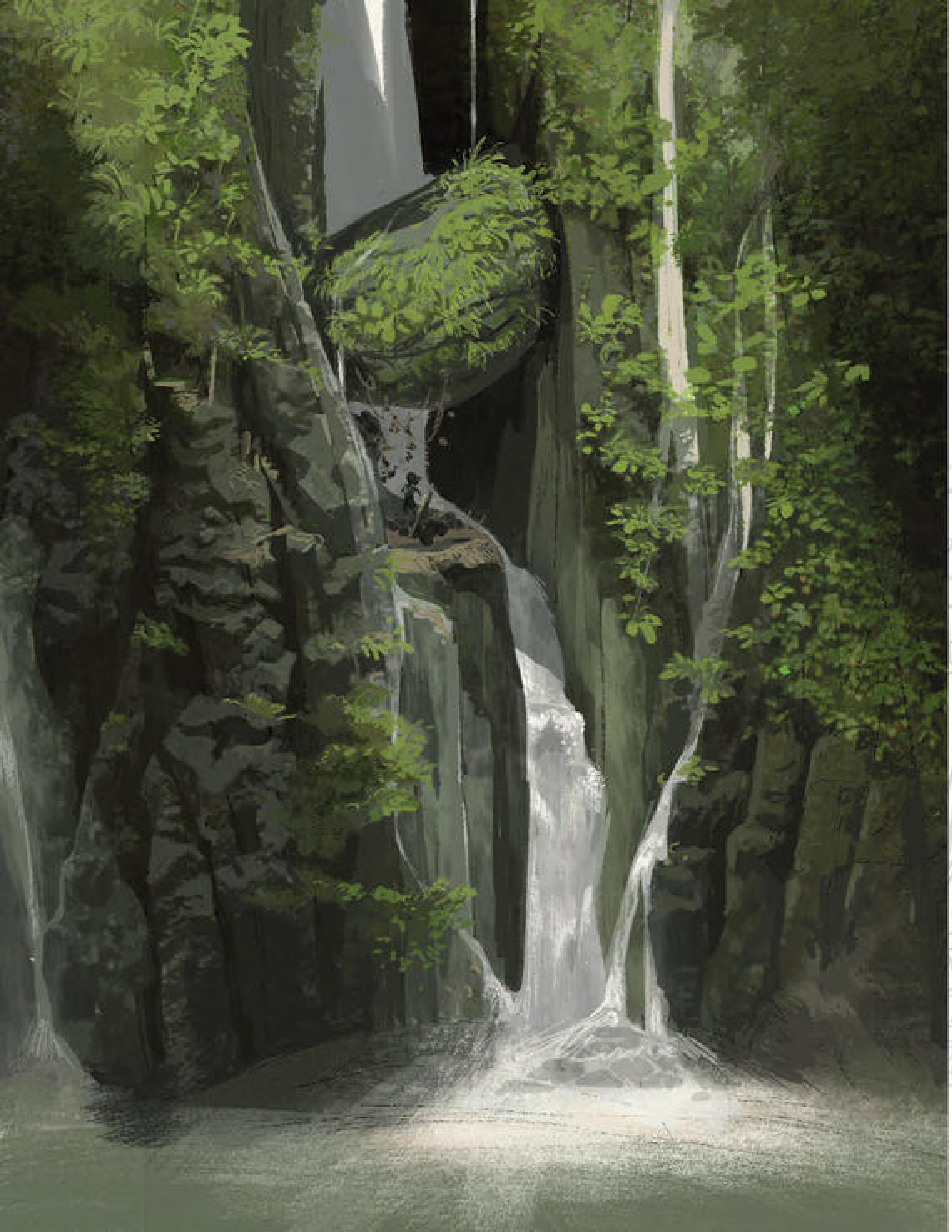
As desolate as the island is, the visual development team also wanted to make it unique. Inspired by some of the myths of Maui and the culture of sailing, production designer Ian Gooding and the team hit upon the idea of decorating the island with scrimshaw, the tradition of carving on bone or ivory. In this case, the artists imagined that Maui decorated his own island. "He's been trapped there one thousand years, so he's gotten really bored and carved up the rocks."

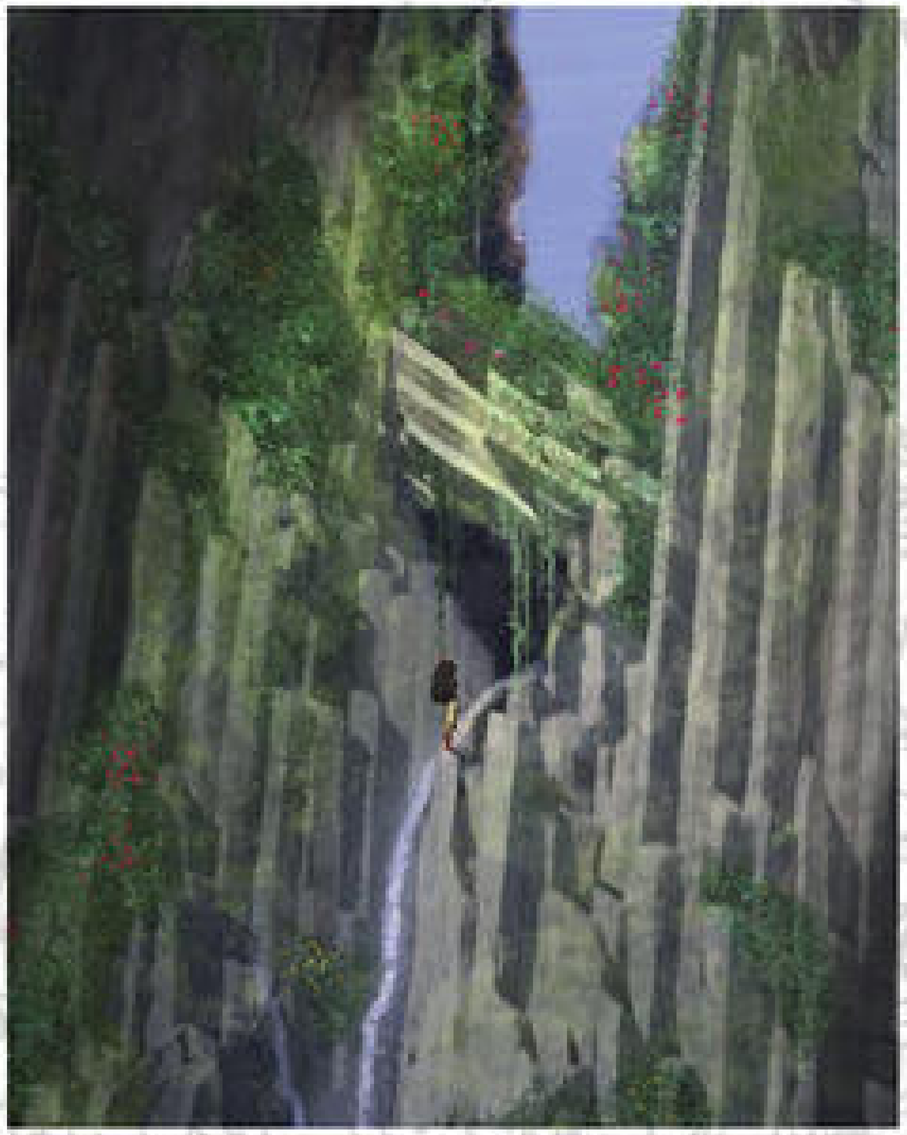


Andy Harkness | clay sculpt, digital paintover

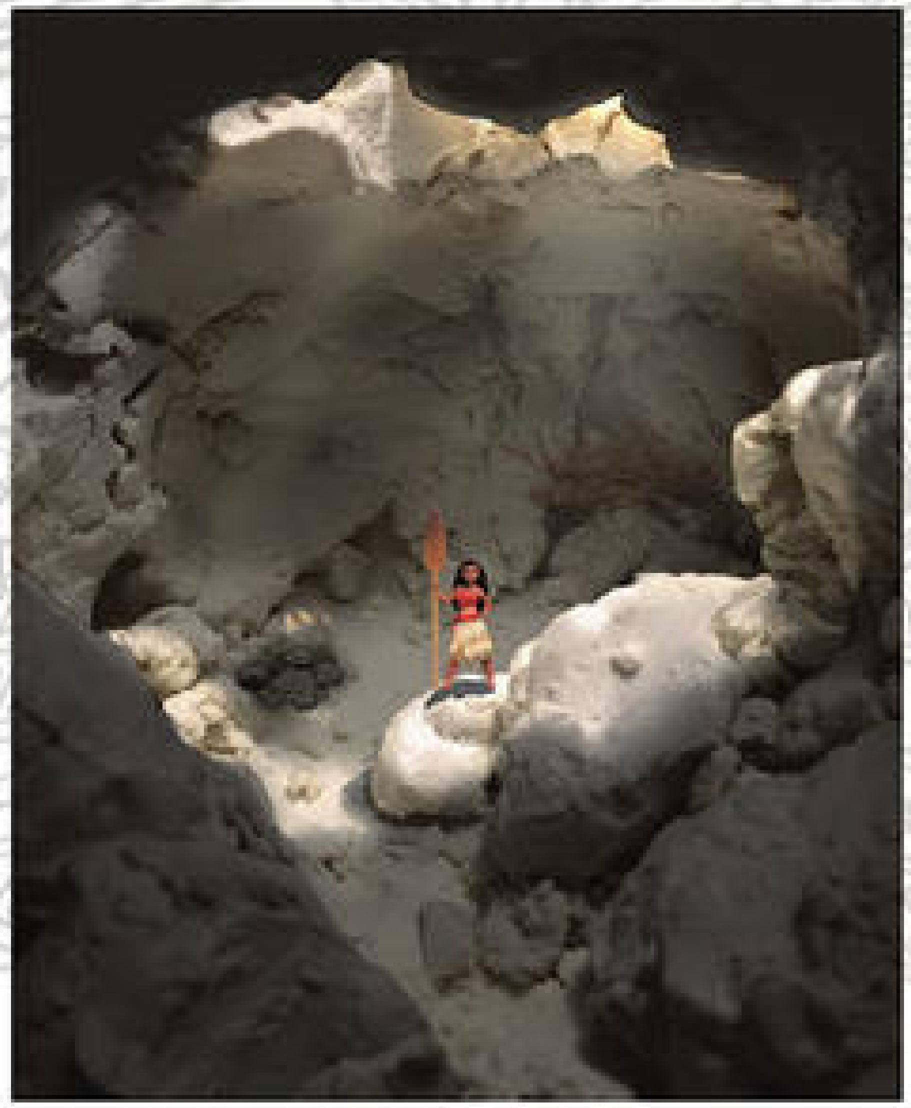


Kevin Nelson | digital





David Womersley | digital



Andy Harkness | clay sculpt, digital paintover

Kevin Nelson | digital

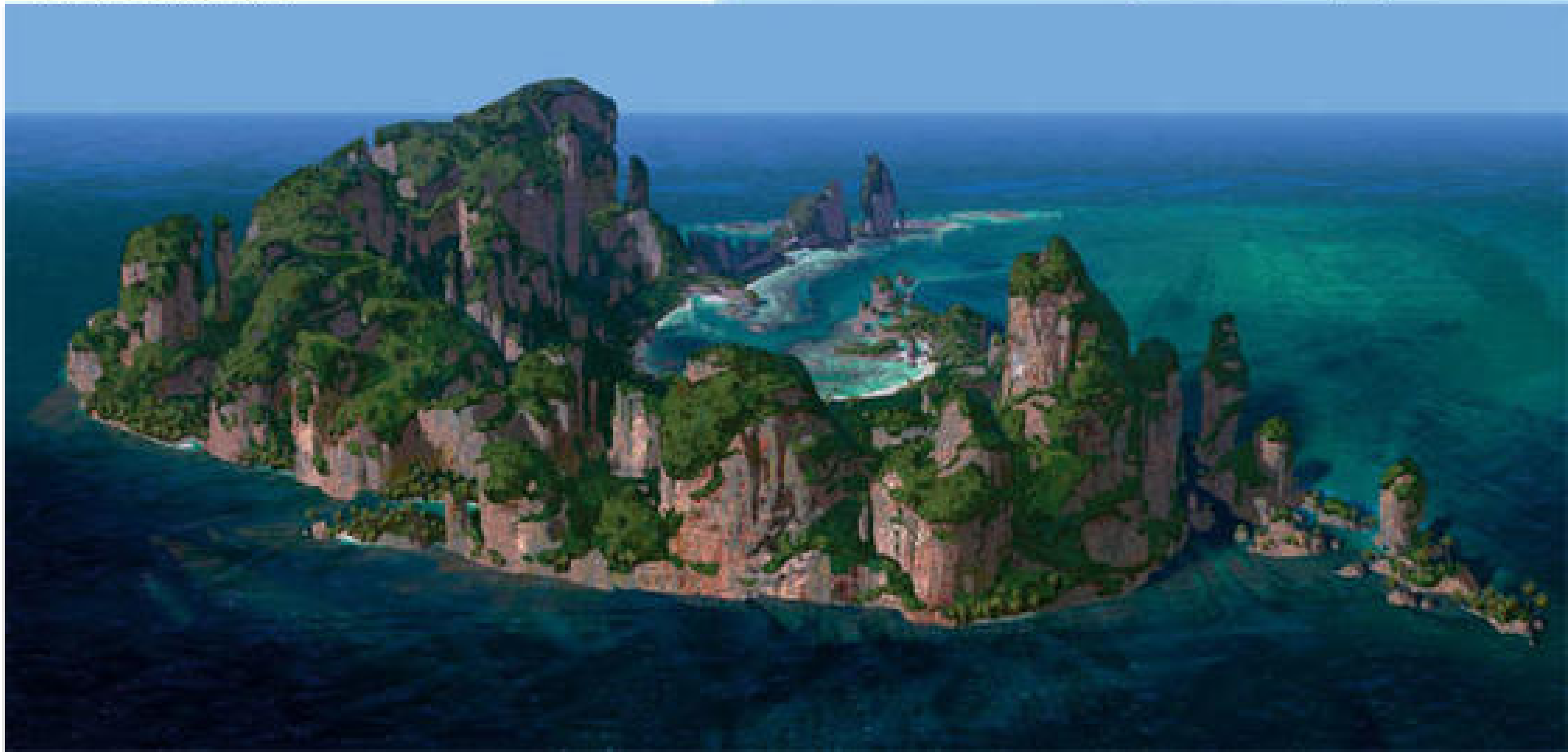
Nick Orsi | graphite

Maui's Island is a stark rock in the middle of the ocean, almost like Alcatraz. It's not close to anything and too small to even create a cloud system over it, although there is a cave in which Maui can shelter from storms.
— Andy Harkness, art director of environments

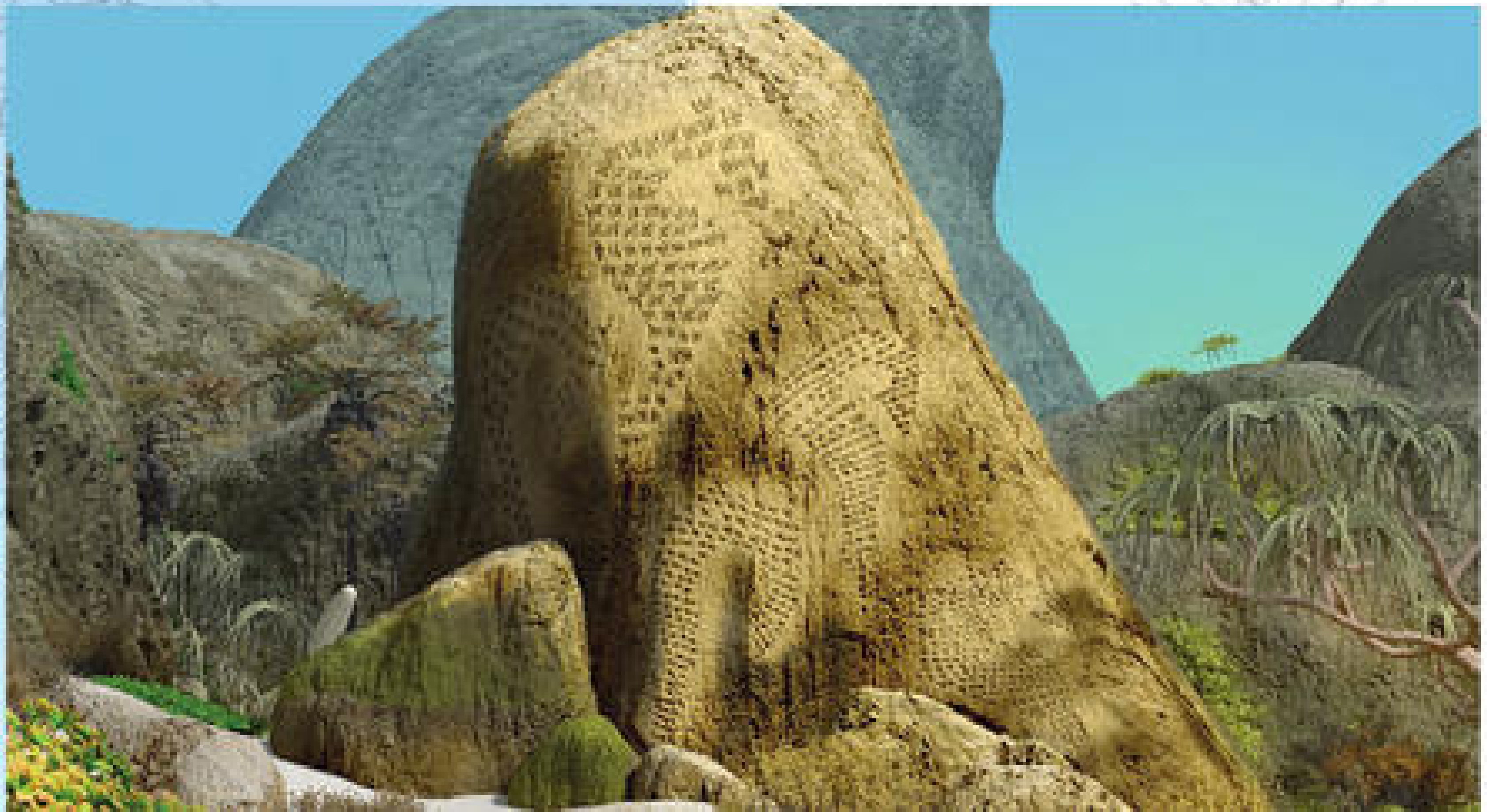
Leighton Hickman | digital

Mehrdad Isvandi | digital

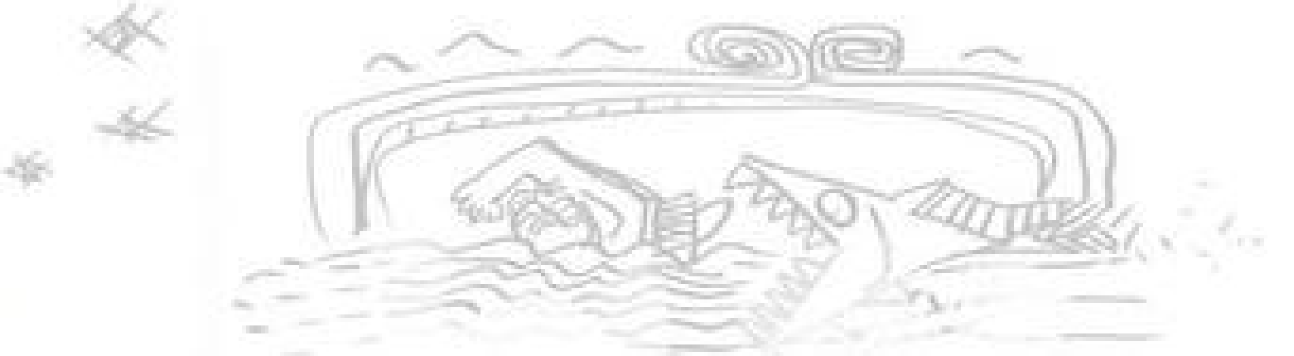
Ian Gooding | digital

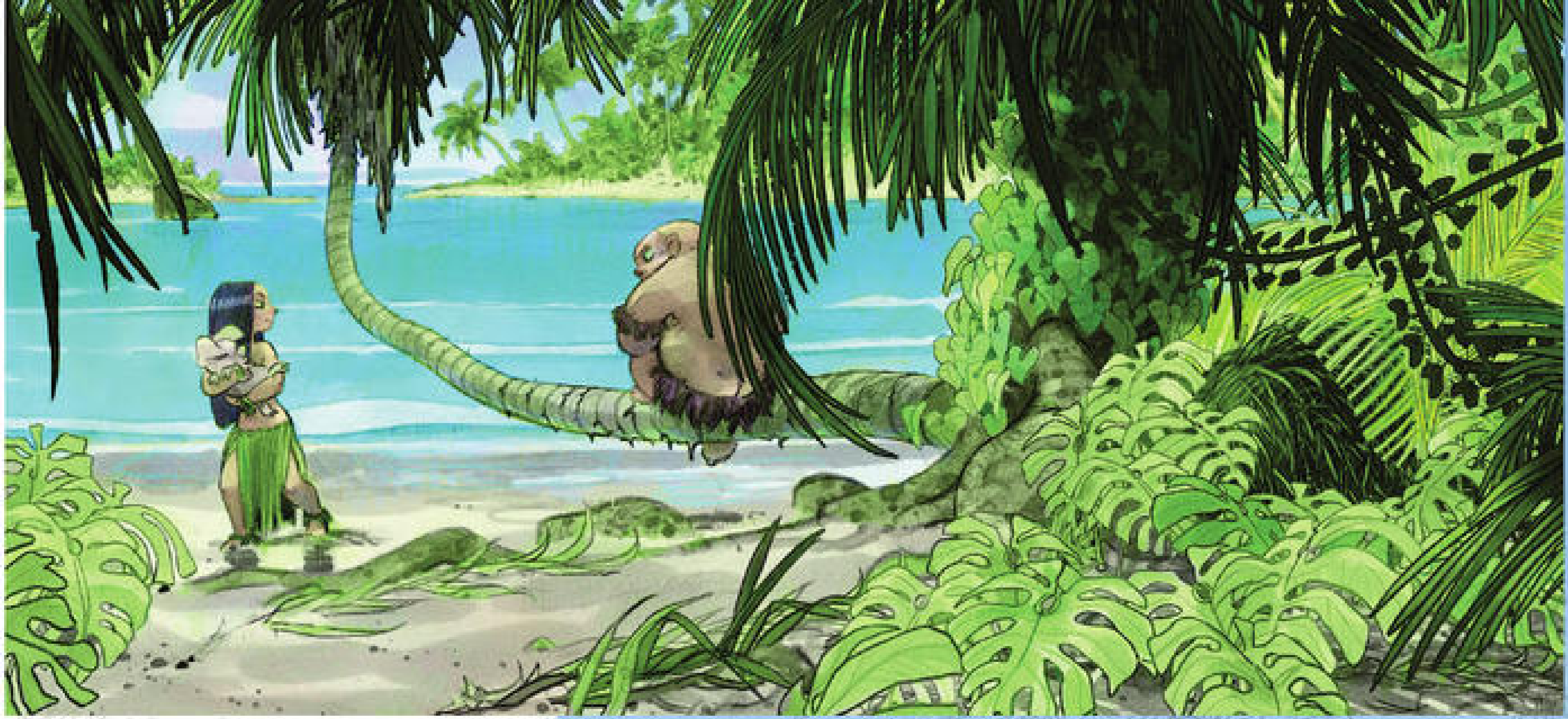


Manu Arenas | graphite, digital

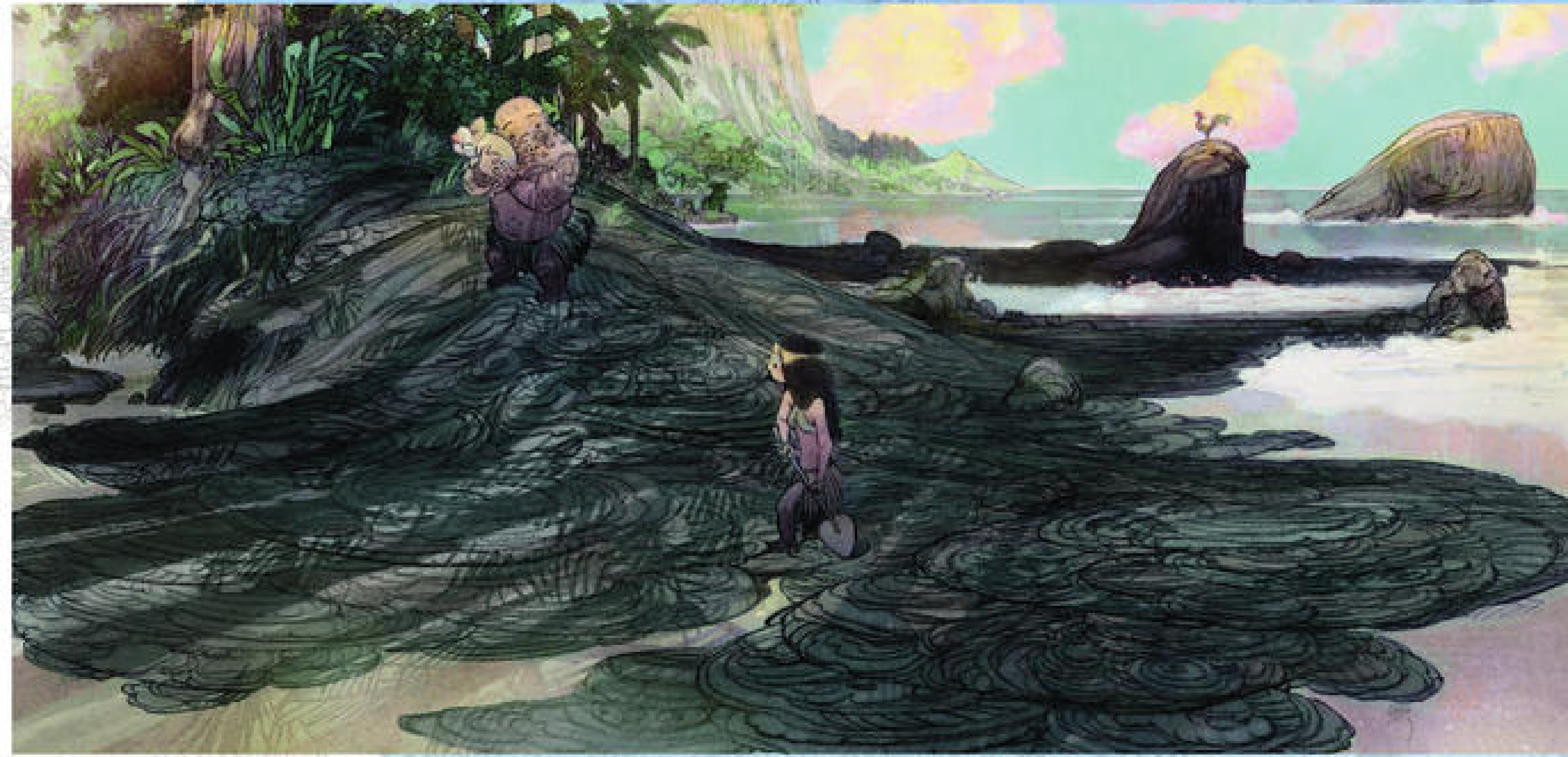


On the giant, jutting stones that form the island, Maui has carved notches for every day he's been marooned. He also sculpted a folk art statue of himself in a proud pose, inside his cave.
– Andy Harkness,
art director of environments





Manu Arenas | graphite, digital



Manu Arenas | graphite, digital

INTO THE REALM OF THE FANTASTIC

Out on the open ocean with Maui, Moana enters the realm of the fantastical, far beyond anything she's encountered before on her home island, and runs into all sorts of supernatural and sometimes comical trouble. But Moana is determined to find Maui's fishhook, so he can once again confront the lava monster Te Kā and restore the heart of the mother island Te Fiti, that he stole a thousand years ago. In so doing, Moana is certain that her people will regain their identity as mighty voyagers.

One of their first fantastical encounters is with the Kakamora, little imps who were inspired by the tales of mischievous spirits in the Solomon Islands, as well as figures in Oceanic mythology all throughout the islands. In the movie, they are given a distinctive Disney Animation twist. "In our story," says co-director Don Hall, "the Kakamora are scavenger pirates, who wear coconut armor and are ruthless, like a cross between Gremlins, the warriors out of *Mad Max*, and any crazy character from a George Miller film."

Once Moana and Maui escape the Kakamora, they are faced with an even bigger challenge: entering Lalotai, the realm of demons and monsters under the ocean. But Moana is determined, because down below the water, in the lair of a sinister collector, lies Maui's fishhook. And Maui's fishhook is the source of his superhuman power, which Moana needs to complete her quest of restoring the heart of Te Fiti. But before she can even brave the world of Lalotai, Moana must scale the Impossible Cliff, dive down deep, and then into and through the ocean.

Lalotai, a proto-Polynesian term that literally means "under the ocean," turned out to be as mysterious and elusive a place for the visual development team to visualize, as it did for the film's main character to reach. "We asked so many people in the islands: What do you think the underworld looks like? There was no consensus," explains production designer Ian Gooding.

Since there was relatively little known about this setting, Gooding, art director of environments Andy Harkness, and the team set about designing their own version of an underwater sea garden. "[Directors] Ron [Clements] and John [Musker] liked the idea that it was in a sort of bubble, so when you look up at the sky, there's water up there. Then, we designed what looks at first glance like a beautiful tropical garden, but if you look closer, it's made out of sea life, like coral and tubeworms that look like tiny coconut trees. Finally, we wanted it to seem magical and weird, so we used lots of bioluminescence, also inspired by plant and sea life."

Sunny Apinchapong | digital
pages 110–111: **James Finch** | digital

Dan Cooper | digital

Ryan Lang | digital

Doug Ball | digital

Fawn Veerasunthorn | digital

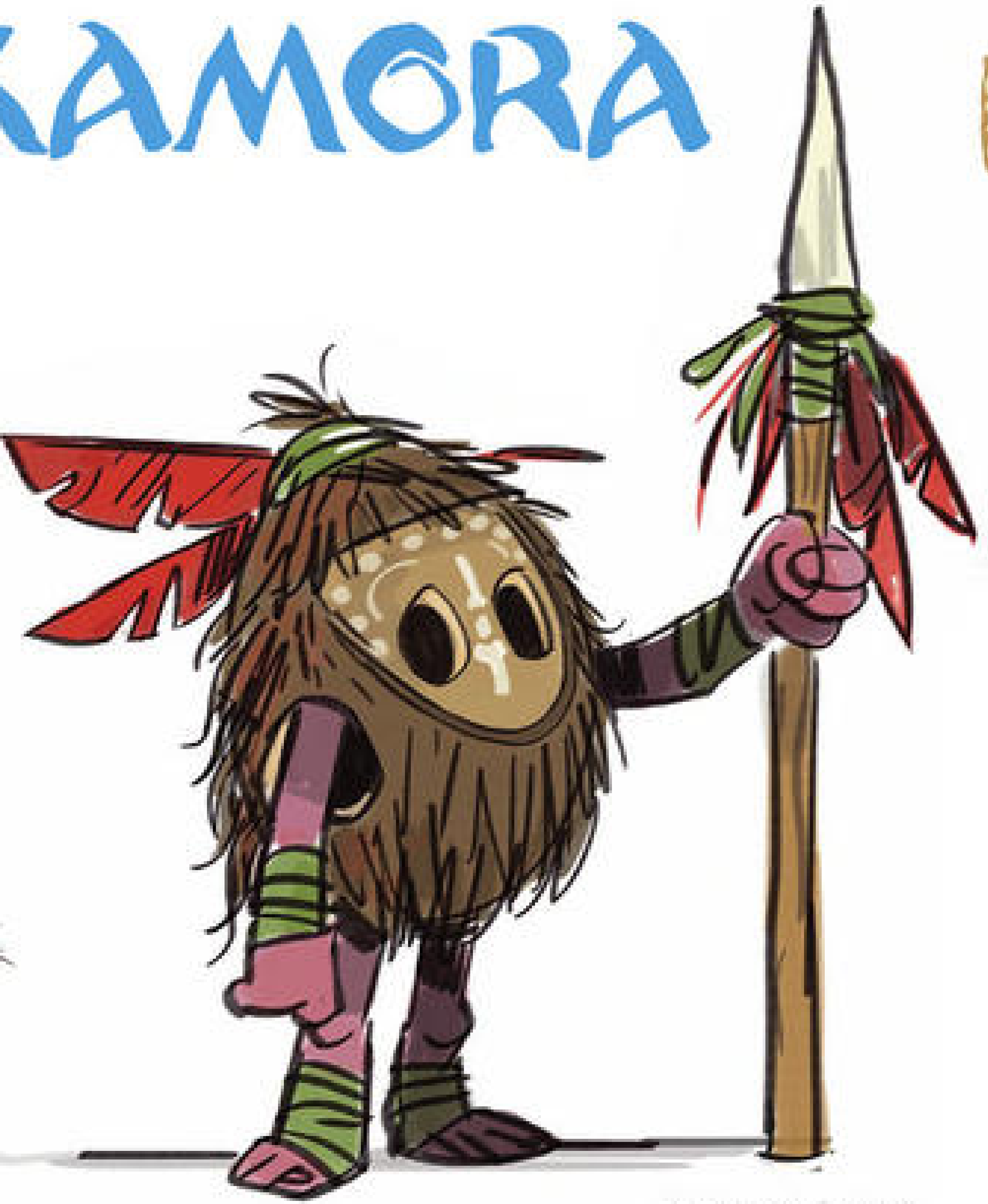
In Lalotai, Moana and Maui are looking for Maui's missing fishhook, in the lair of the villainous collector, Tamatoa. In the beginning of the design process, Tamatoa was a giant headless warrior from an Oceanic myth. But ultimately for his design, the team was inspired by the colorful coconut crab. This design choice further supported the personality of the character. "He's a collector," explains Gooding. "He lives in a big seashell that spirals up, like the Guggenheim Museum, and is decorated with his collection of amazing and rare things."

Once Moana and Maui defeat Tamatoa, however, the danger only mounts. Both characters dread their encounter with Te Kā, a formidable volcanic being who stands between them and Moana's destination, the island of Te Fiti. Te Kā is especially feared because she has already beaten Maui once before. In fact, she was the one who banished him to his small spit of an island in the first place, and separated him from his magical fishhook.

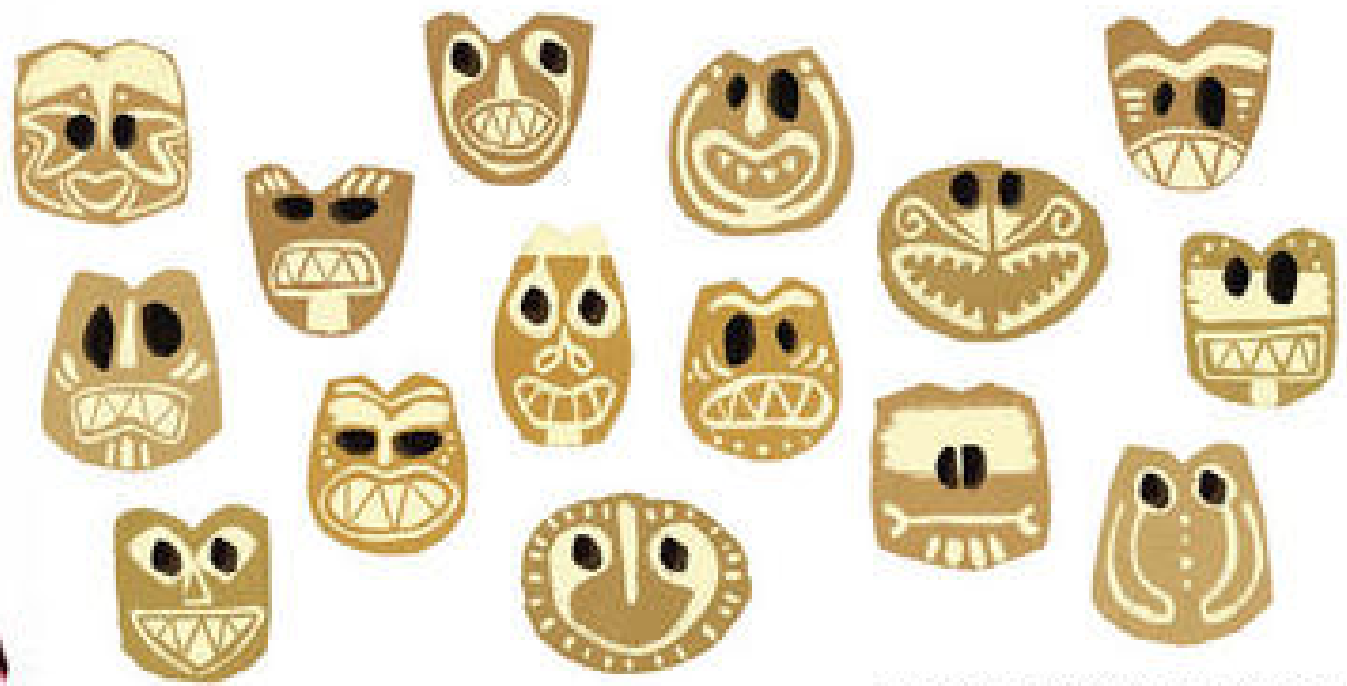
Designing Te Kā, an anthropomorphized volcano who is at first scary but then softens in the story, turned out to be yet another design obstacle in a film already full of groundbreaking challenges. "Te Kā is easily the most challenging character to design in the film. It was a huge effects undertaking," explains art director of characters Bill Schwab.

Moana risks her life confronting Te Kā, in order to get to Te Fiti and return her stolen heart. As the climactic goal of the film, Te Fiti had to look like the mother of all islands and stand out as fantastically beautiful among so many breathtaking environments, as well as being geologically believable. In short, says Harkness, "We wanted Te Fiti to be the most beautiful, lushest green island possible." And in so doing, explains Gooding, "get the audience to key into Moana's goal quickly and emotionally."

KAKAMORA



Bill Schwab | digital



Leighton Hickman | digital

The Kakamora were inspired by Oceanic myth but, through the process of design and story evolution, have become a unique Disney Animation creation. They are a fantastical tribe of scavengers who ambush Moana and Maui on the open ocean. "The initial thought was that the Kakamora were going to be little party animals," says head of story David Pimentel. "But then they evolved into these berserkers who will stop at nothing to get what they want."

"[Art director of characters] Bill Schwab came up with idea that they would actually be coconuts," says production designer Ian Gooding. "Eventually that felt too far from the real legend, so now they're more humanoid. But jumping off that idea, we decided, what if they were wearing coconuts like armor?" Schwab explains the thinking behind their design: "I was terrified we'd have creepy little men running around, so I wanted to come up with something that had high entertainment value. Story artist Brian Kesinger and I worked a lot on making them cute-scary."

The animators particularly enjoyed the challenge of bringing the Kakamora to life, because their coconut armor hides their faces, and they only communicate through drumming and by painting scary faces on themselves in preparation for battle. To get their cartoony style down, head of animation Amy Lawson Smeed explains that the animators went back to their roots—hand-drawn animation: "Animator Randy Haycock did some really great hand-drawn tests to sort out what we could do with the Kakamora. For example, if they're eating, or hiding in their shells. We just wanted to have a lot of fun with them."

The Kakamora sail a vessel as unique as they are—essentially a collection of floating islands made up of coconut shells, driftwood, or any manner of objects they have found. This gives the islands an eclectic look, art director of environments Andy Harkness explains. "Their islands have the flavor of Dr. Seuss, mixed with something out of the television show *Hoarders*."

To figure out how the Kakamora would sail their islands, the team turned again to the ever-useful coconut. "Coconuts sometimes sprout," says Gooding, "and those become the masts that the sails unfold from." As a result, the islands of the Kakamora are much like they are, or as Gooding puts it, "wacky and improbable, but fun."

Leighton Hickman | digital

Dale Baer | graphite

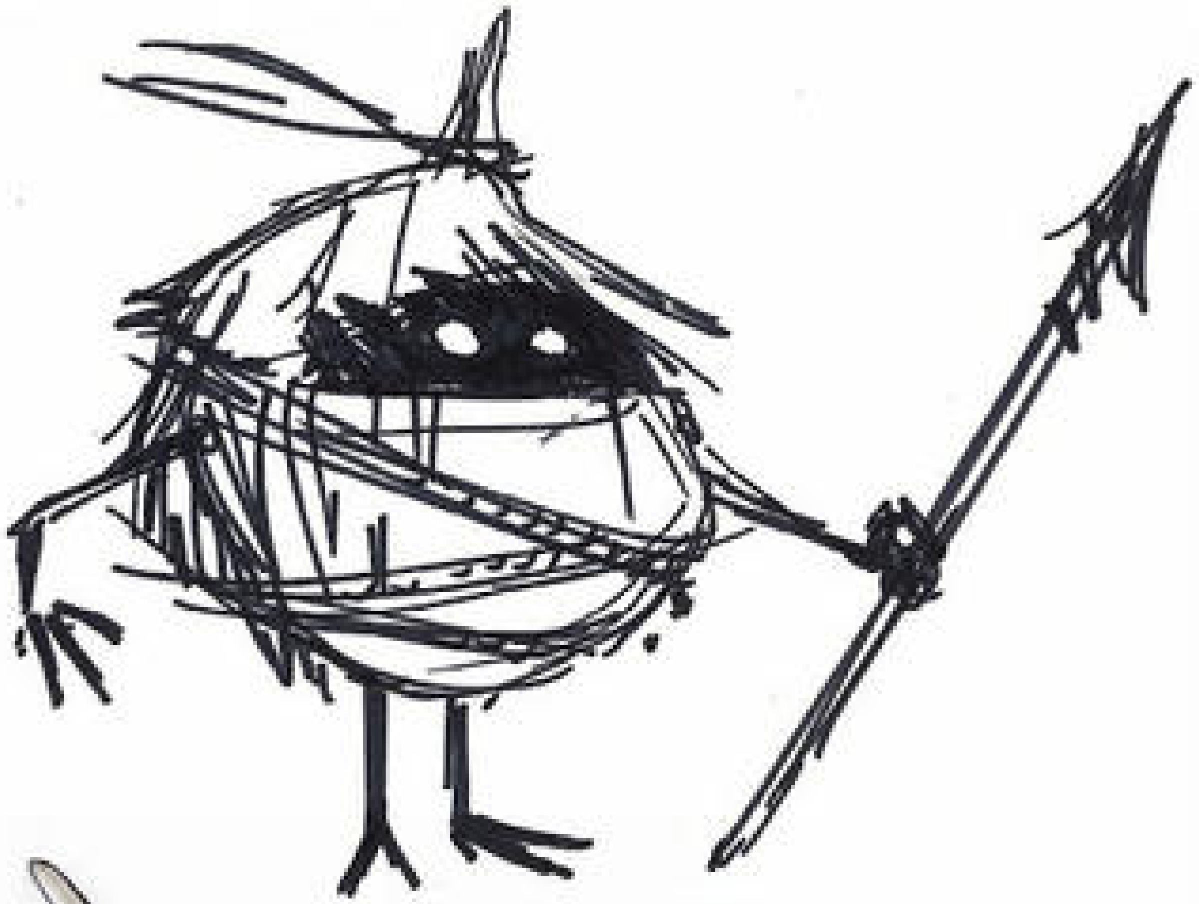
Manu Arenas | graphite, digital

> The Kakamora are the smallest characters in our film, but are fierce warriors. They capture that Pacific Islander ability to be as fierce and strong and bold as you can be.
> — David Pimentel, head of story

Bill Schwab | digital

Bill Schwab | digital

Jin Kim | digital



Brian Kesinger | ink

Brian Kesinger | digital

Leighton Hickman | digital

Manu Arenas | graphite, ink

Bill Schwab | digital

> We encounter the Kakamora early in the second act, so we're playing them more fun than perilous. But we do want to get the sense that these guys are bad news!
> – Chris Williams, co-director

Bill Schwab | digital

Bill Schwab | digital

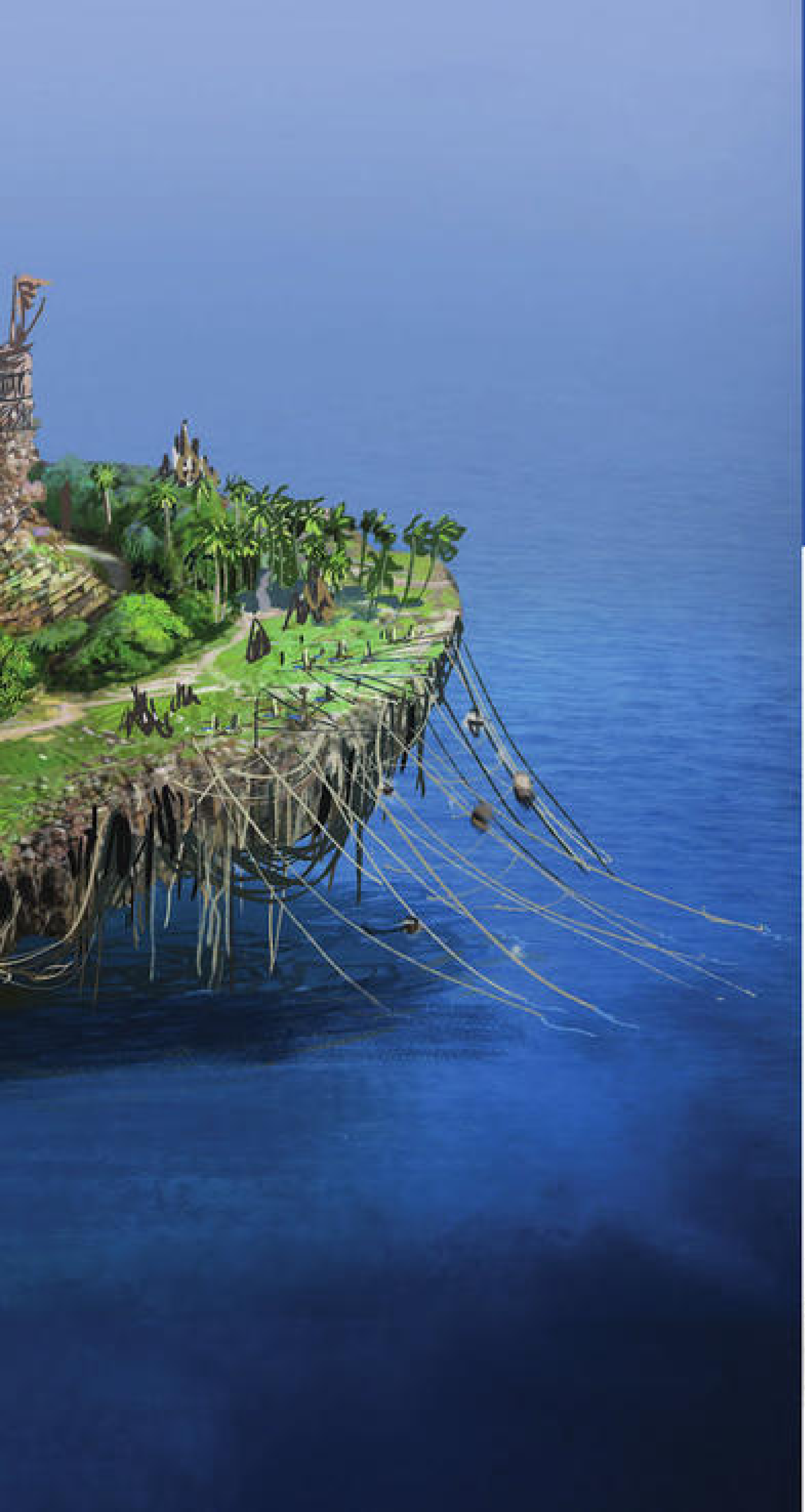
Manu Arenas | digital

Bill Schwab | digital

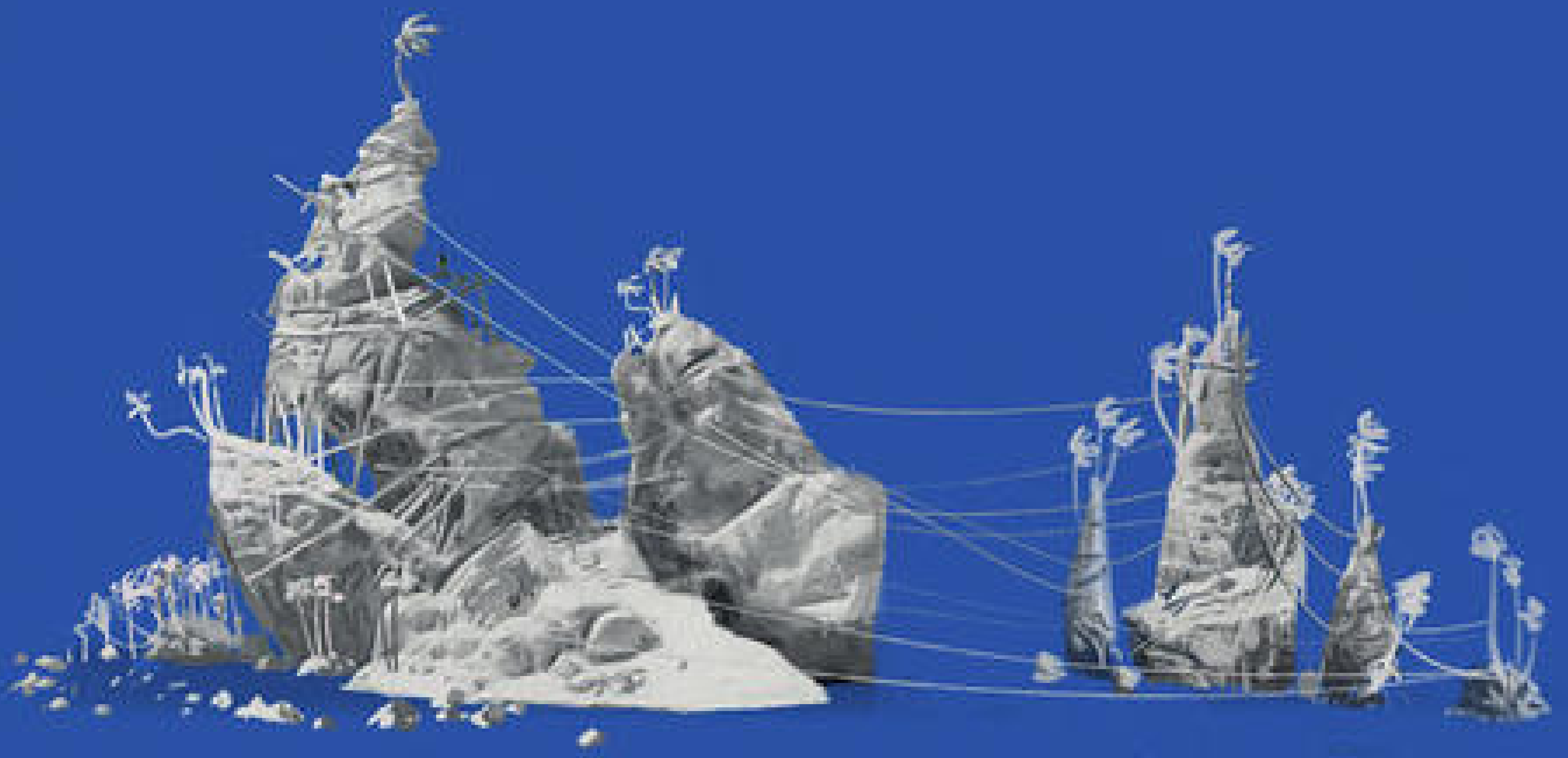
Leighton Hickman | digital

Zachary Petroc | digital sculpt

Leighton Hickman | digital

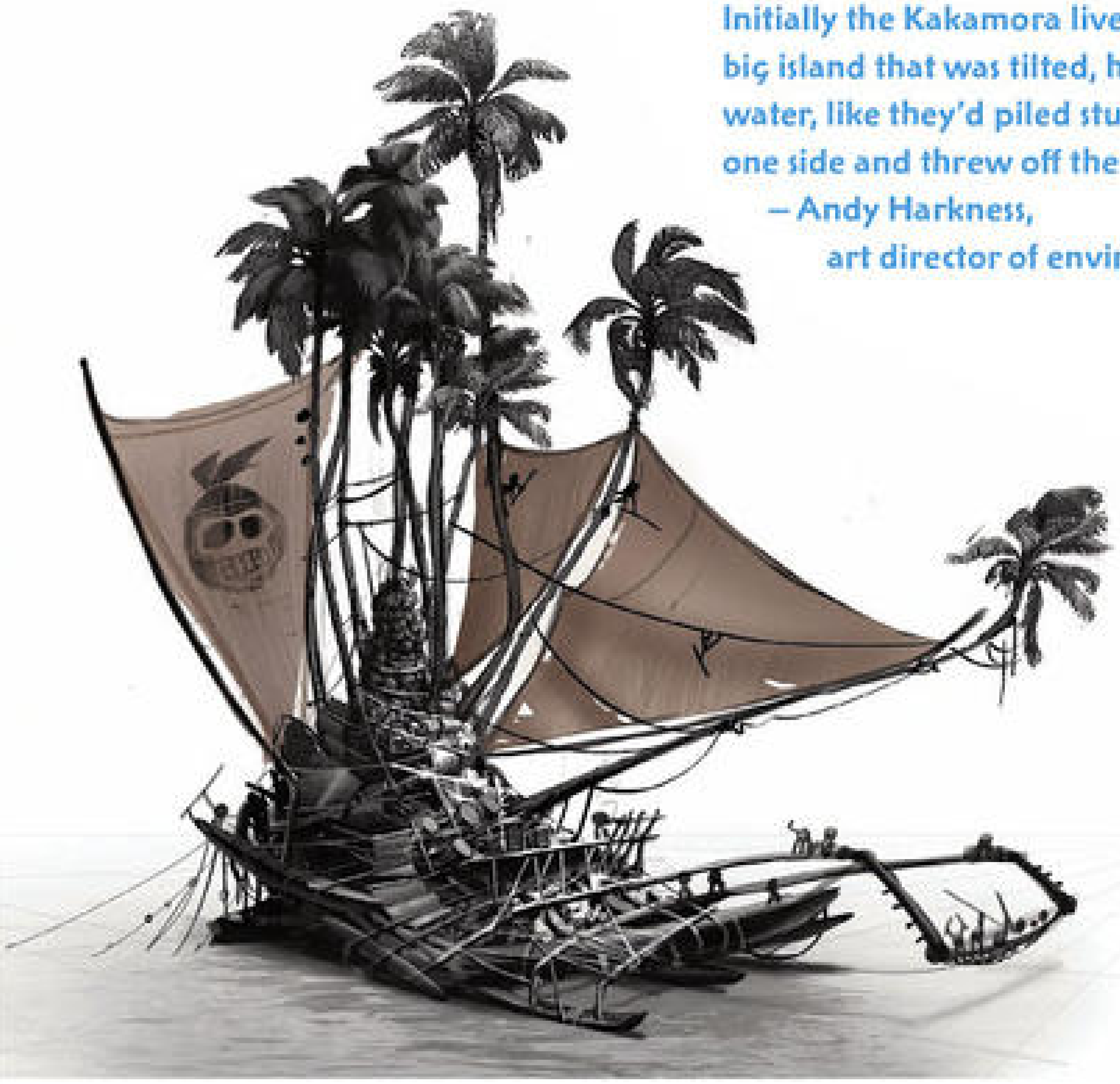


Mehrdad Isvandi | clay sculpt, digital paintover

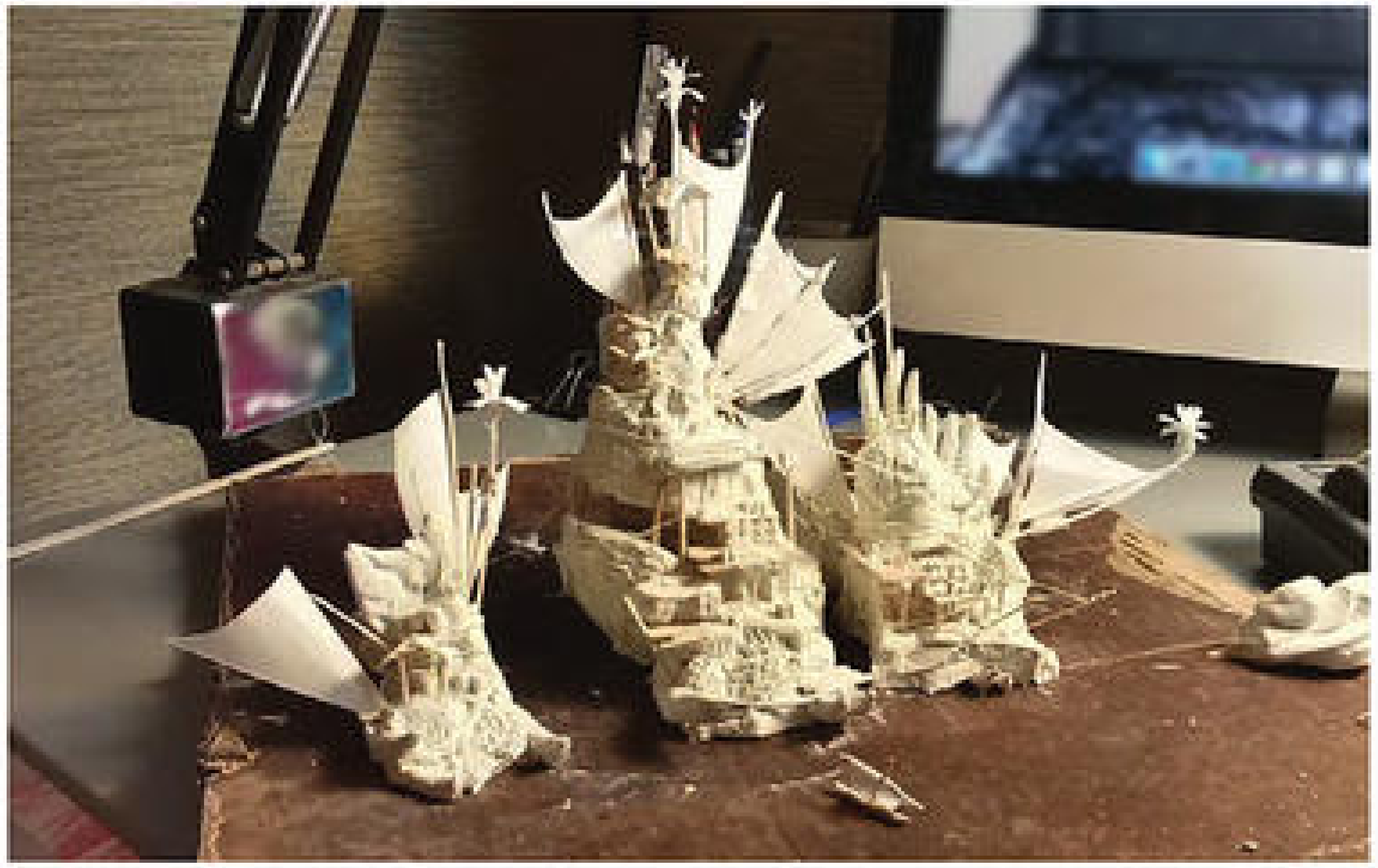


Mehrdad Isvandi | clay sculpt

Initially the Kakamora lived on a big island that was tilted, half out of water, like they'd piled stuff up on one side and threw off the weight.
— Andy Harkness,
art director of environments

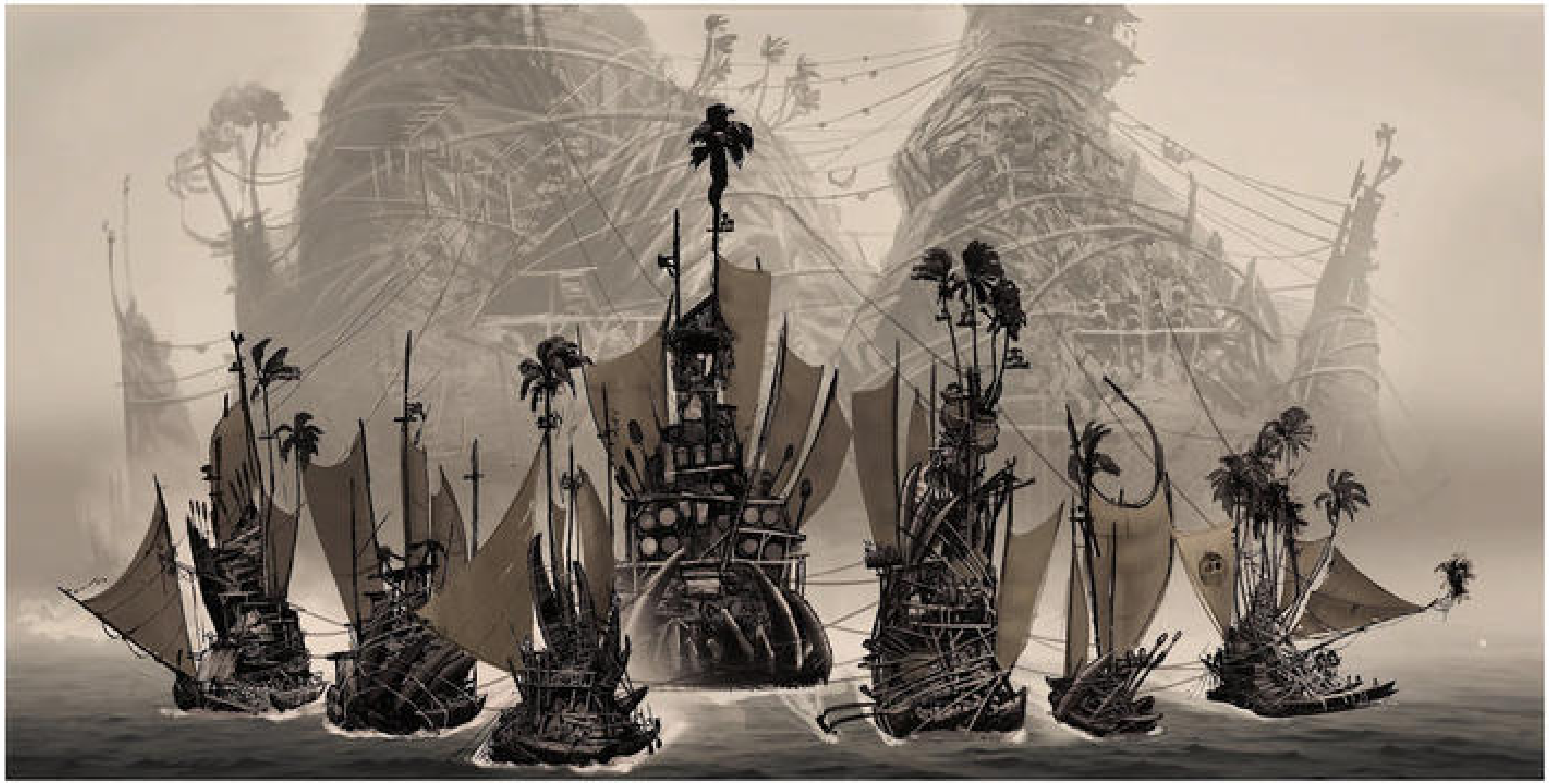


Mehrdad Isvandi | digital

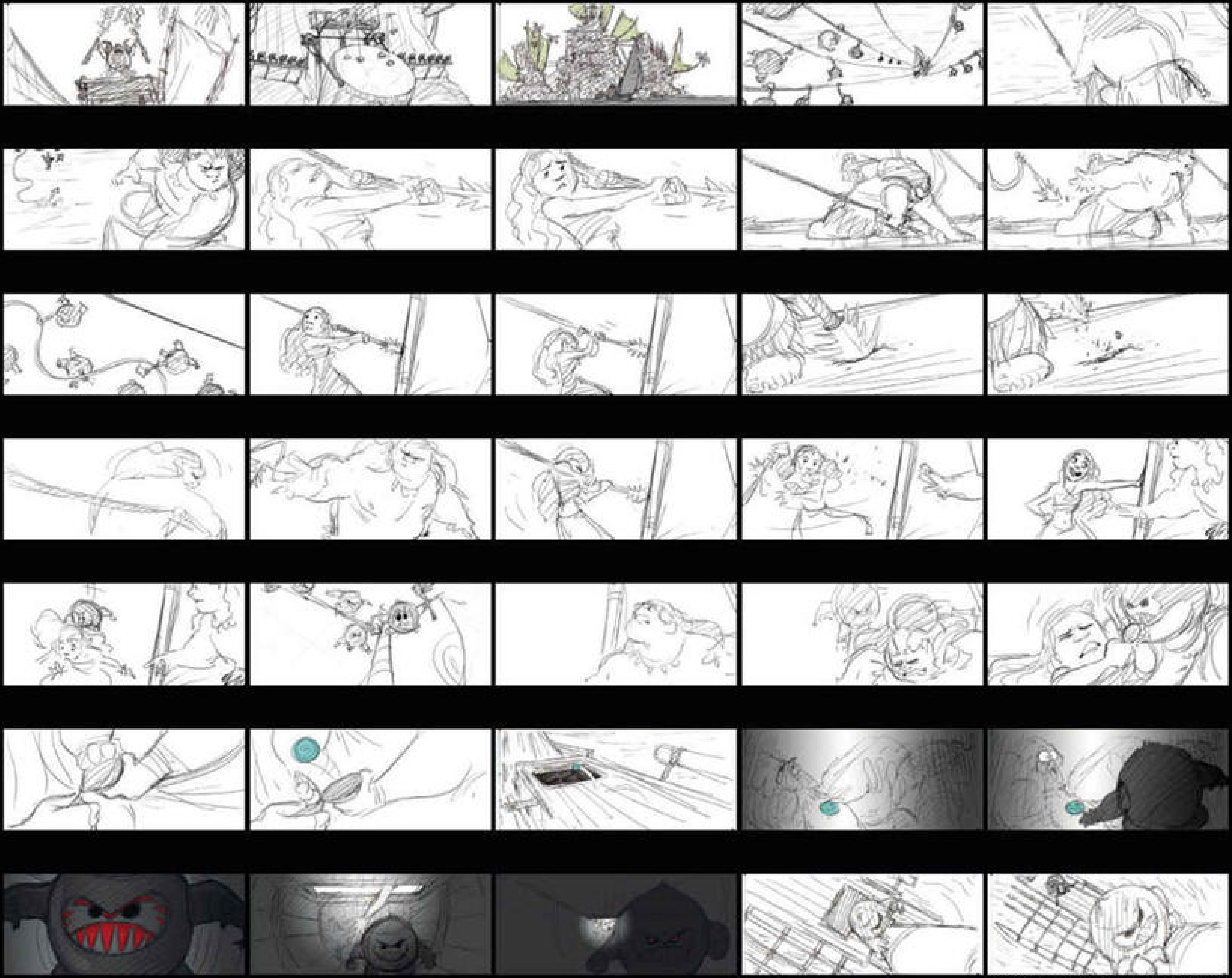


Mehrdad Isvandi | clay, paper, toothpick sculpt

Since the Kakamora themselves were going to be wearing coconuts as armor, we came up with the idea that the whole island is made of thousands of coconuts they have tied together over the years, and they keep adding to it.
— Ian Gooding, production designer



Mehrdad Isvandi | digital



storyboards | John Ripa | digital

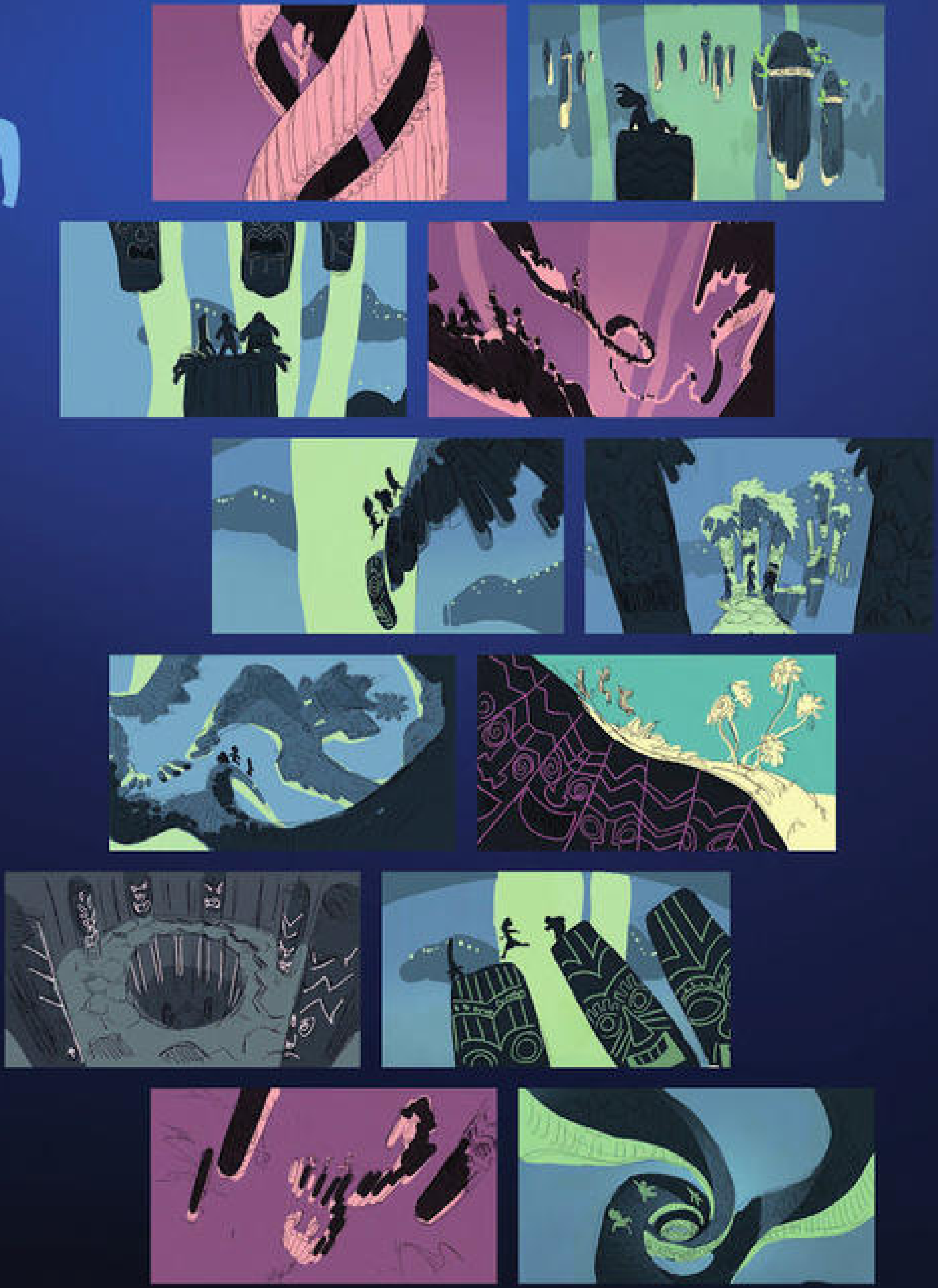
JOURNEY TO LALOTAI

One of the most mysterious settings in the film that took a while to evolve into its final form was the world of Lalotai. The setting under the sea started out as an underworld inhabited by ancestral spirits and evolved into something much more formidable for Moana—the underwater realm of monsters. And figuring out what this world looked like was no easy task. "When we spoke to our consultants to research the underworld, no one really knew exactly what it looked like down there, other than saying it is beautiful, bigger than life, and quite magical," recalls visual development artist Lisa Keene.

In terms of the architecture and lighting of Lalotai, Keene explains that, "We were inspired by the basalt formations that people saw in the islands, and the glowing plant life that lives deep in the ocean." Initially, she continues, "the underworld was also meant to seem like an undersea reef, in which people went under the ocean and recreated the houses they knew from the islands. But the underworld is lit from the bottom, so it gives the area this otherworldly quality. A little eerie but also cozy at the same time."

In several early iterations of the film story, Moana met her ancestors in the underworld. They came to her at a time of need and lifted her up, both literally and figuratively, out of the depths of her despair deep under the water. Story artist Dave Derrick boarded the sequence.

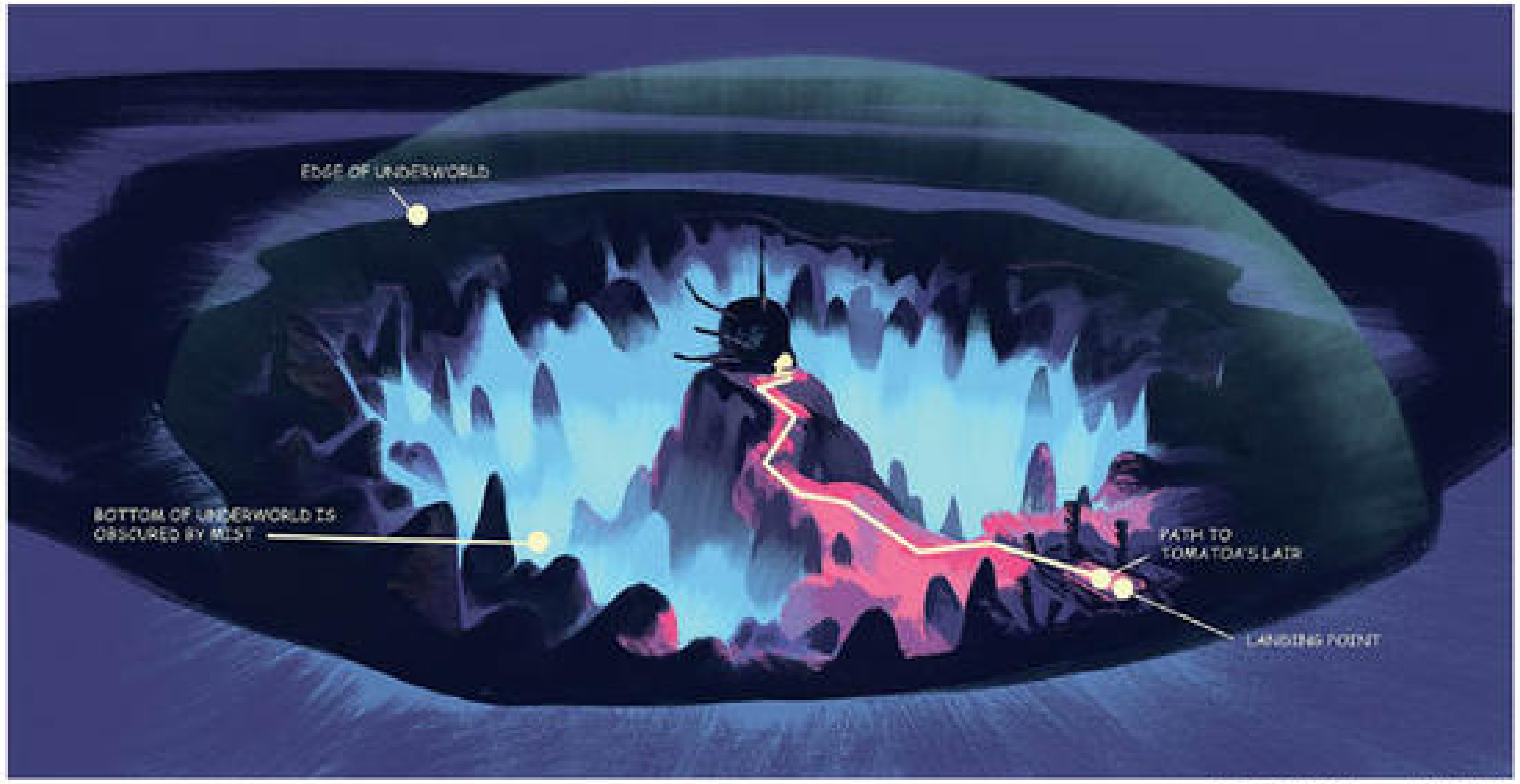
"That was one of the first sequences that brought tears to eyes," recalls David Pimentel, head of story. "The spiritual connection in it really resonated from the very beginning, and I've held on to that feeling for how deep we wanted to go with our movie."



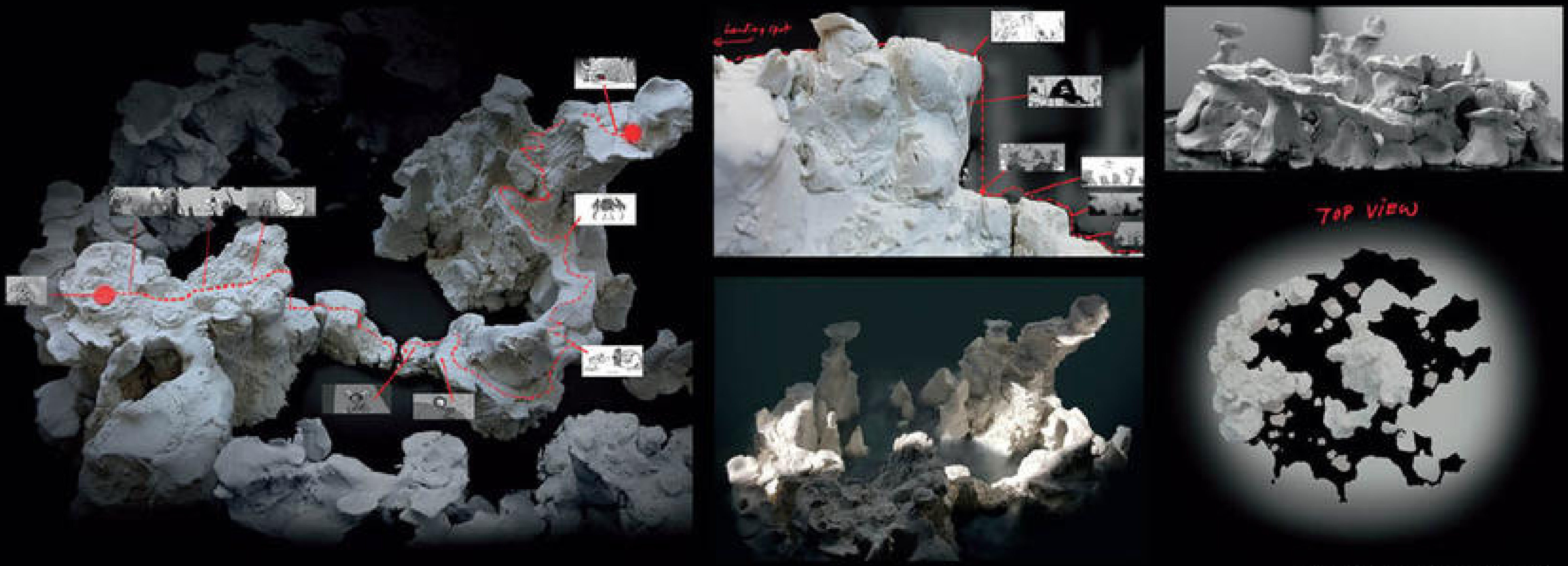
Kevin Nelson | digital

Among the natural formations everyone mentioned seeing in the islands were these post-like formations made out of basalt. I grouped them together like musical notes and broke pieces off to make a stairway.

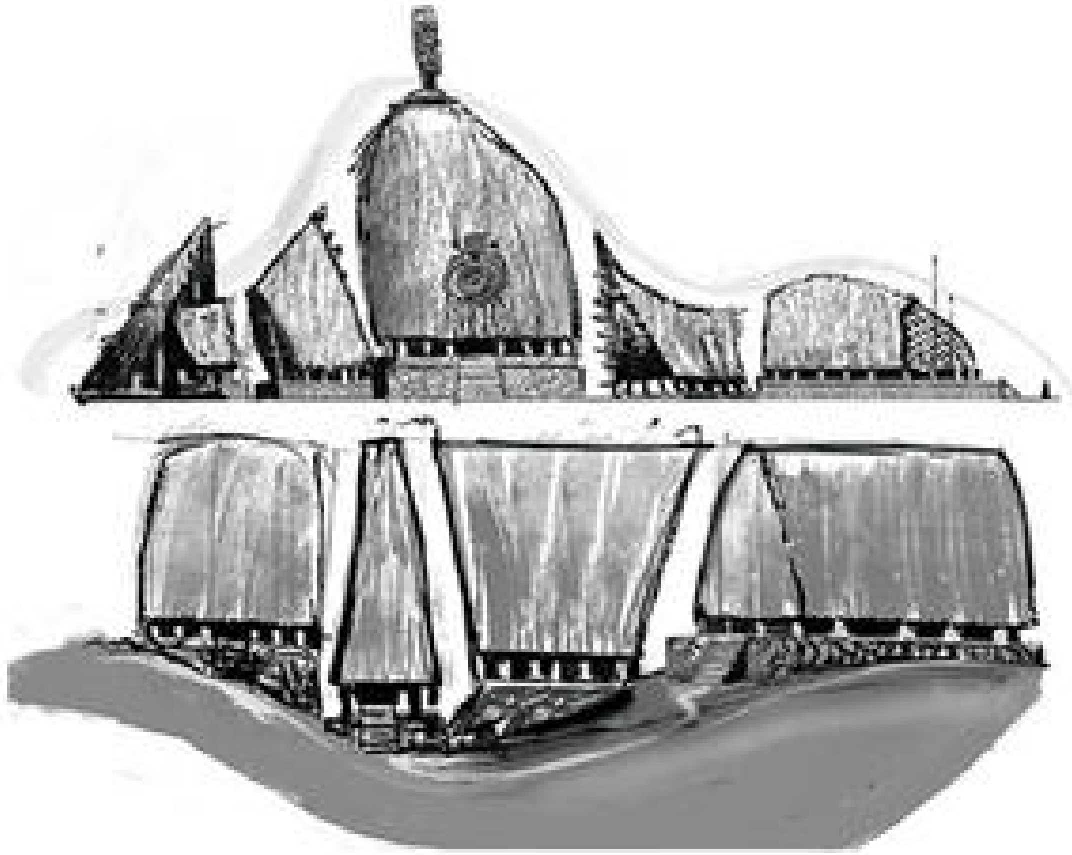
— Kevin Nelson,
visual development artist



Kevin Nelson | digital

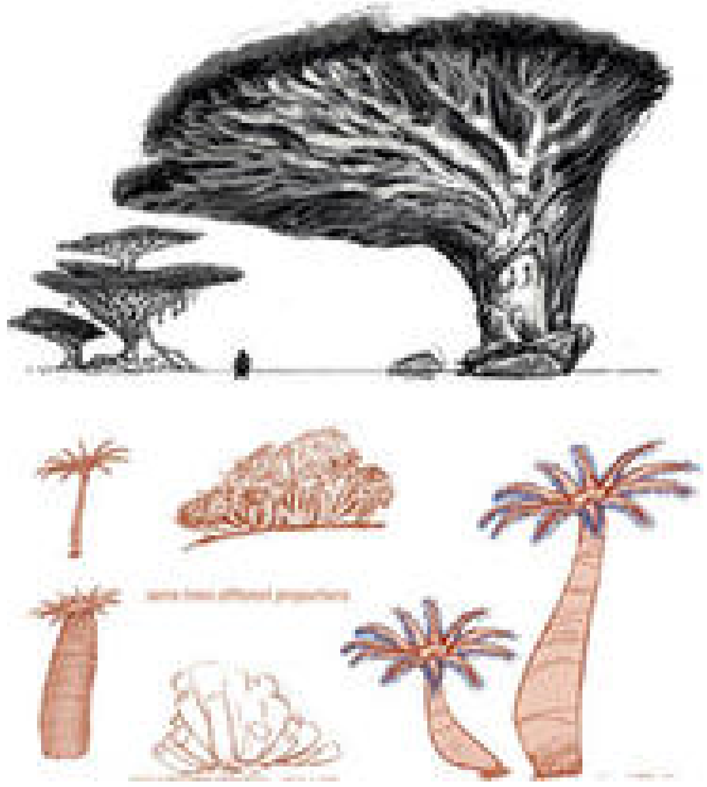


Andy Harkness | clay sculpt

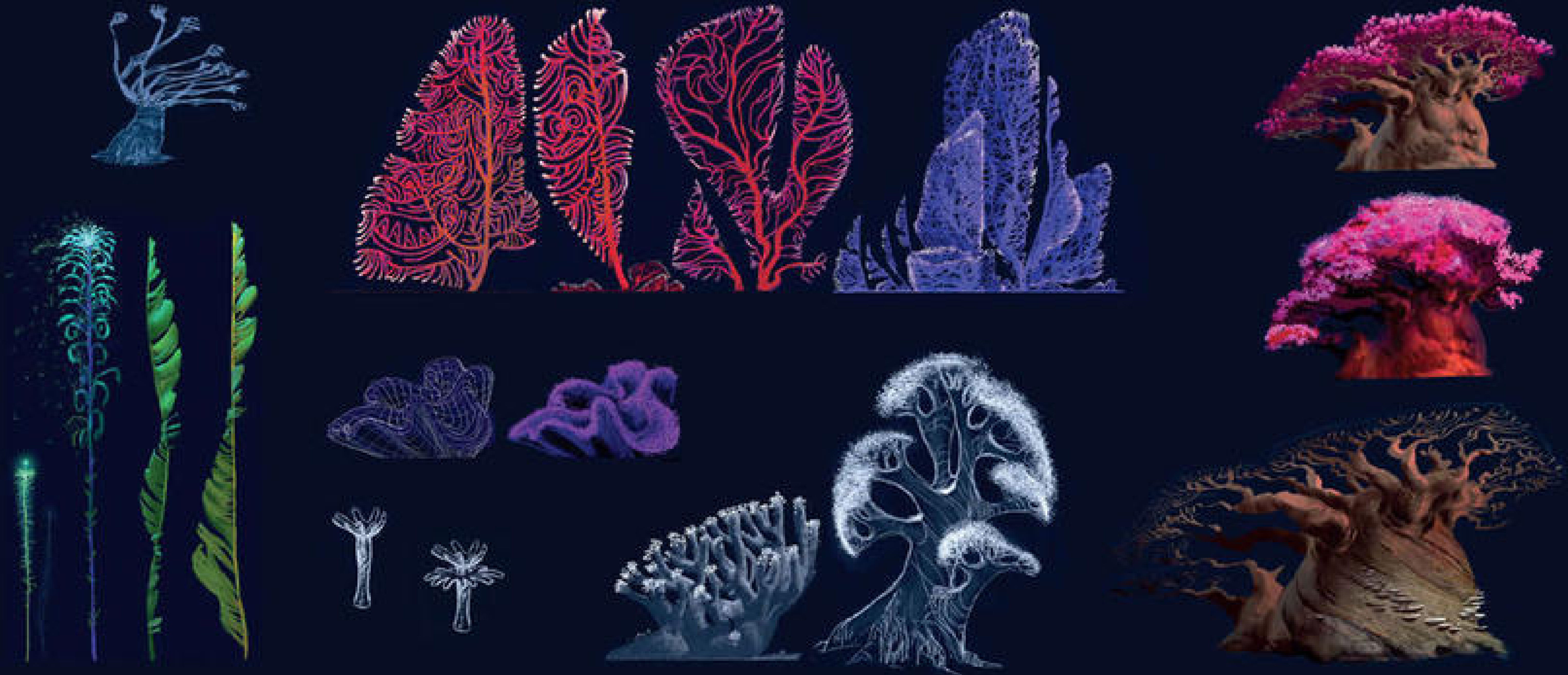


Mehrdad Isvandi | digital

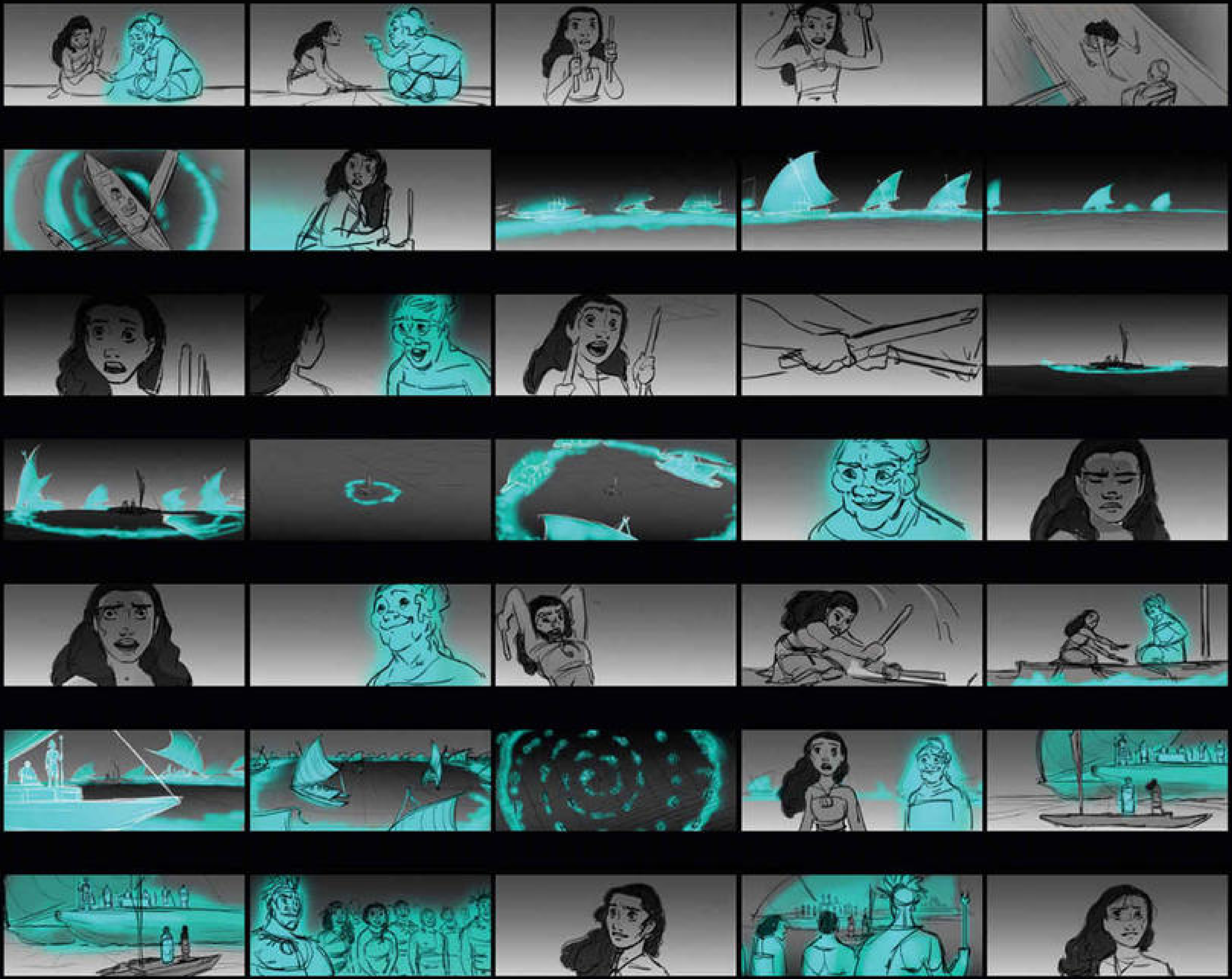
Mehrdad Isvandi | digital



Mehrdad Isvandi | digital



Mehrdad Isvandi | digital

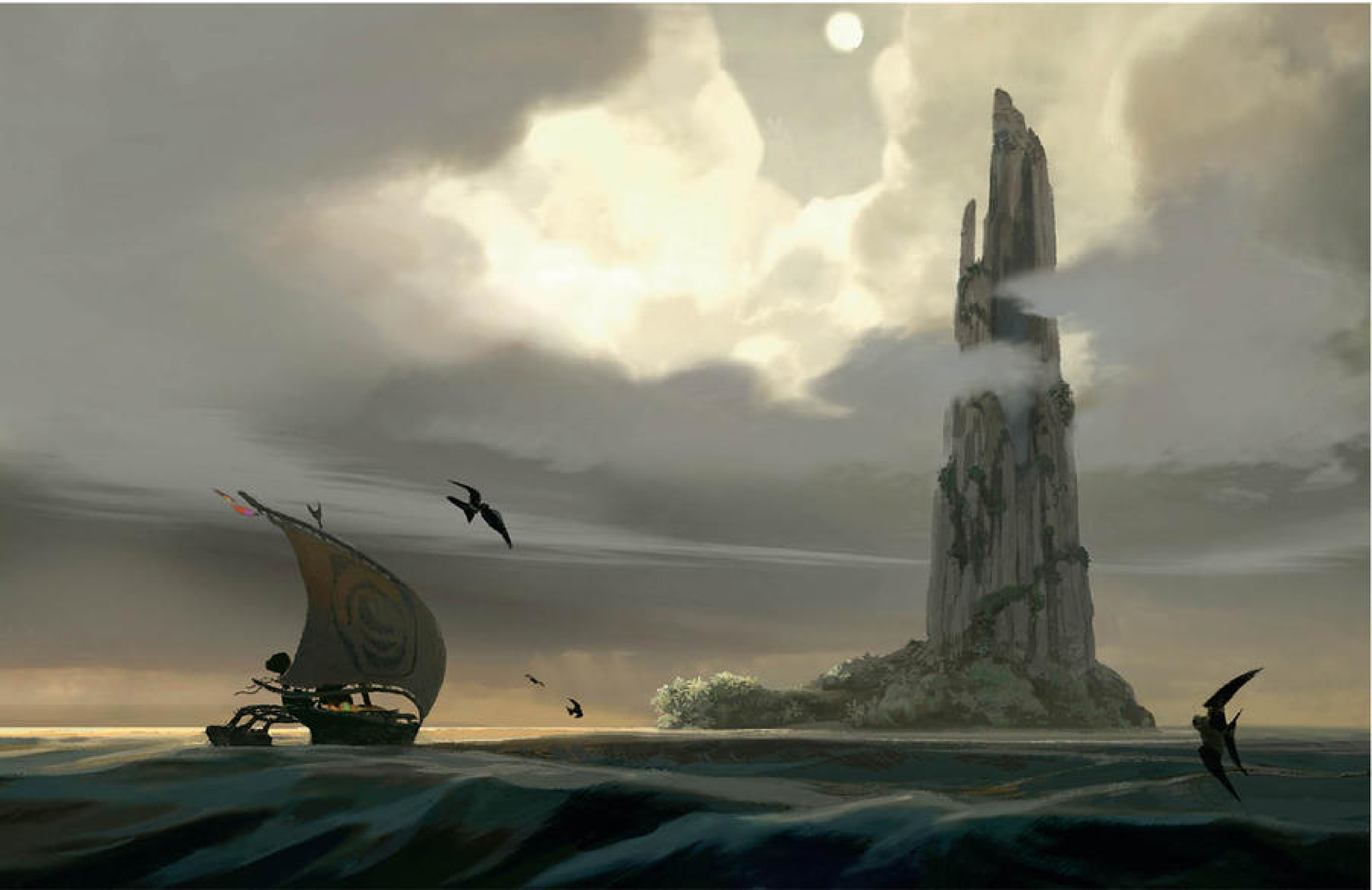


storyboards | **David Derrick** | digital

IMPOSSIBLE CLIFF

The Impossible Cliff is neutral and gray, desaturated, so when they jump to the underwater world, there's a huge shift in color. Maybe it has a little glow, foreshadowing what's to come.

—Andy Harkness, art director of environments



David Womersley | digital

Mehrdad Isvandi | clay sculpt, digital paintover

The Impossible Cliff, where Moana and Maui jump into Lalotai, needed to seem magical, like a portal that can't be someplace just anyone can go. And scary, so nobody would want to jump in.

—Ian Gooding,
production designer

Kevin Nelson | digital

Kevin Nelson | digital

LALOTAI

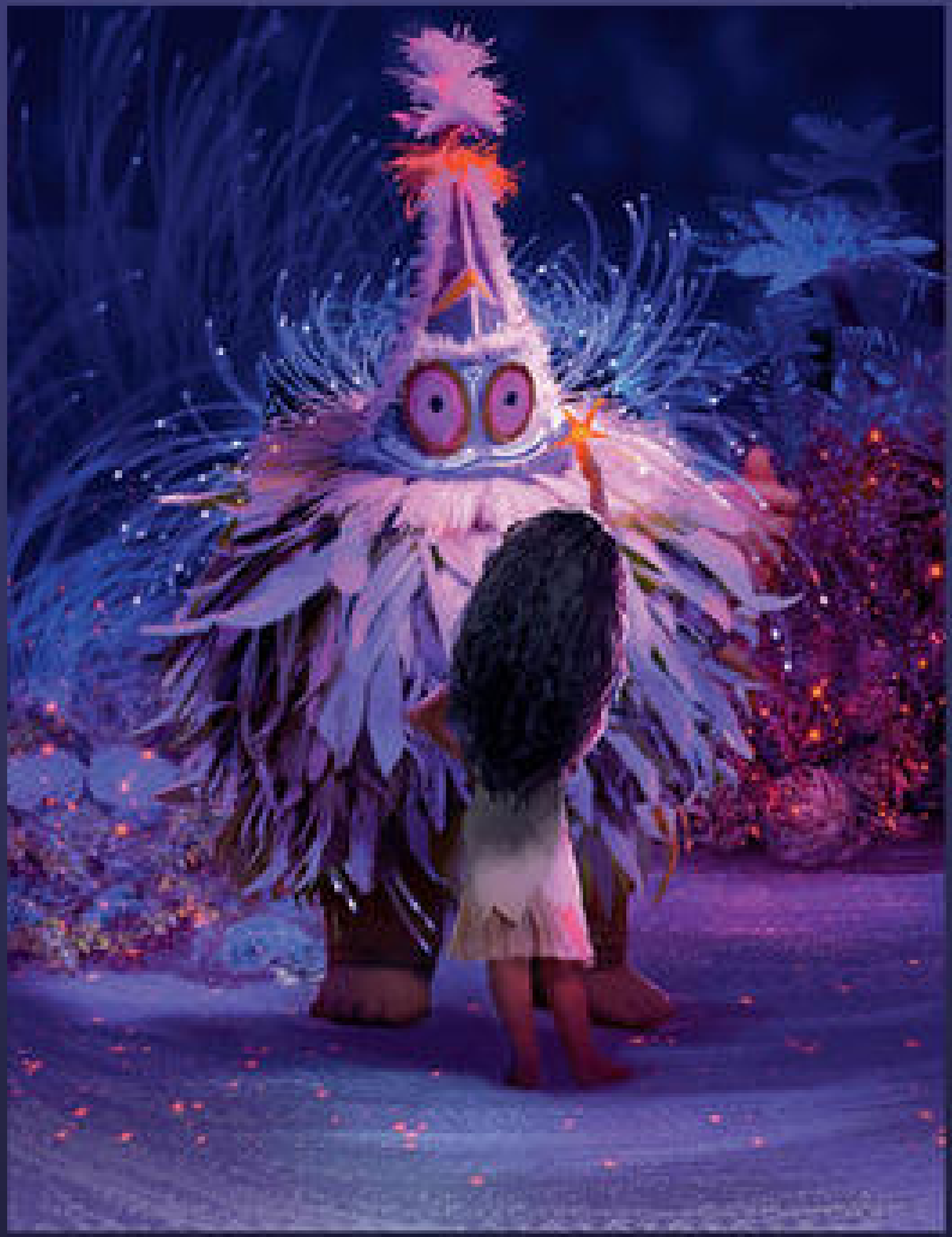
Inspired by coral, Lalotai's colors change as Moana and Maui go through different sections, from blues and reds with accents of orange, to mostly orange with accents of green, until finally they reach Tamatoa's lair, which is mostly gold.
— Andy Harkness, art director of environments

Fawn Veerasunthorn | digital

Lisa Keene | digital

Fawn Veerasunthorn | digital

Fawn Veerasunthorn | digital



Lisa Keene | digital

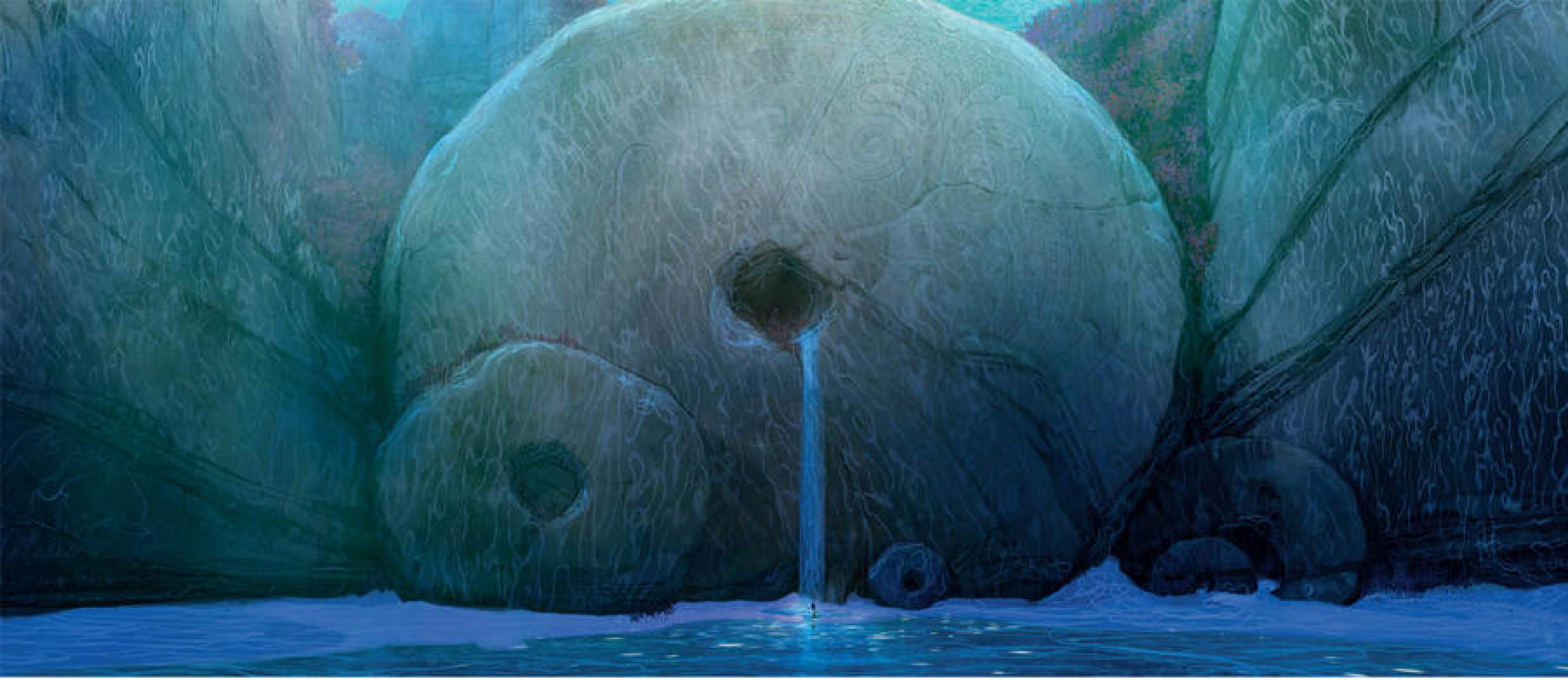
Manu Arenas | digital

Early in the story development, Moana had to disguise Maui in the underworld, to hide him from his enemies. So she covered him up with a costume and decorated him with plants.
— Lisa Keene,
visual development artist

Kevin Nelson | digital

Justin Cram | digital

Kevin Nelson | digital



Manu Arenas | digital

Bill Schwab | digital

[Visual development artist] Manu Arenas did a fabulous piece of the entrance to the underworld, when Maui's Grandma Hina was the guardian.
—Ian Gooding,
production designer

Manu Arenas | digital

Kevin Nelson | digital

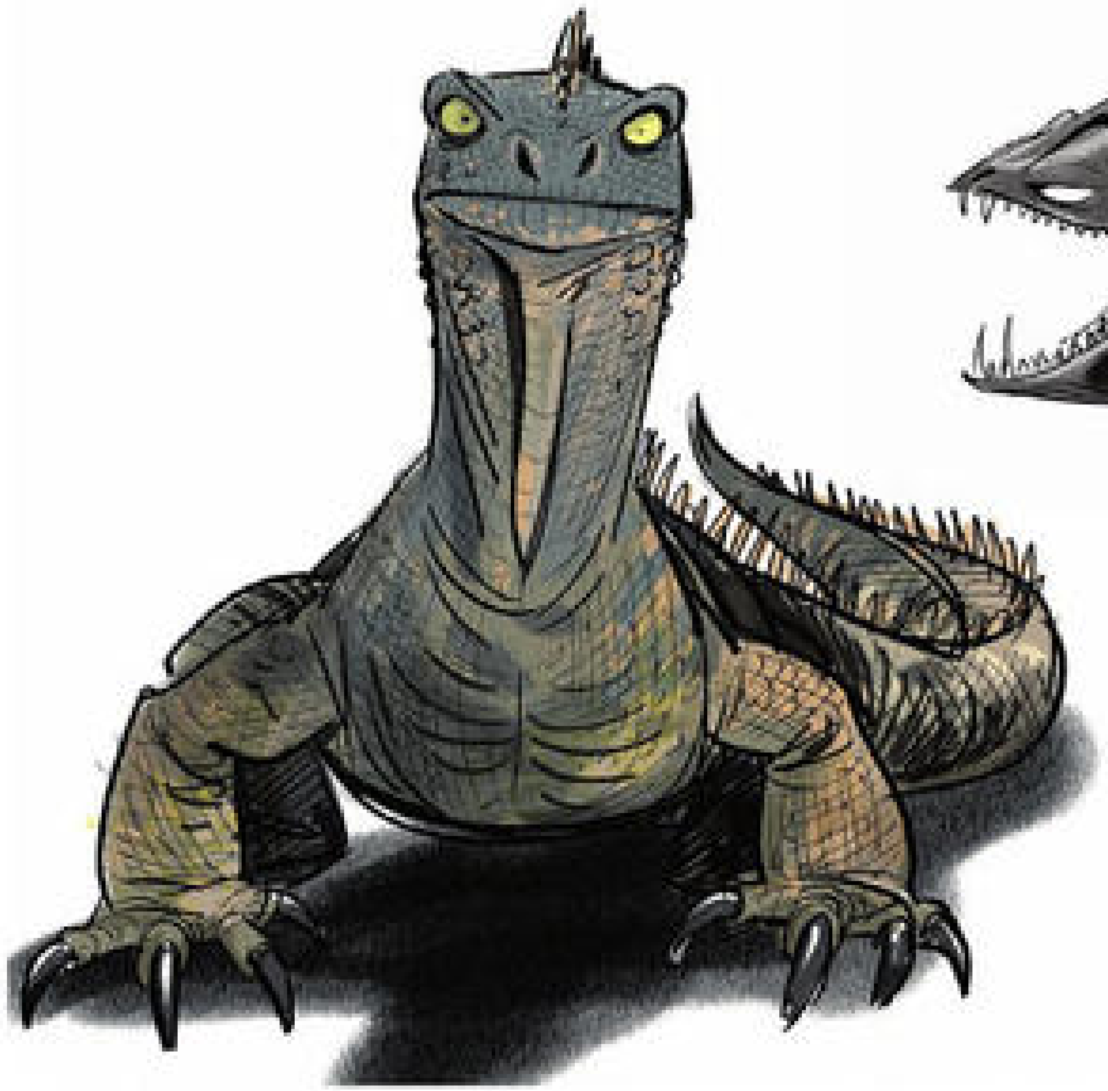
Jin Kim | digital

Jin Kim | digital

Bill Schwab | digital

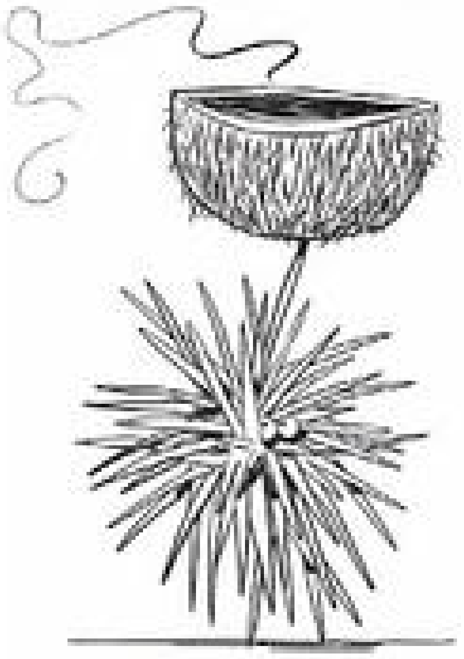
Jin Kim | digital

Jin Kim | digital



Jin Kim | digital

Jin Kim | digital



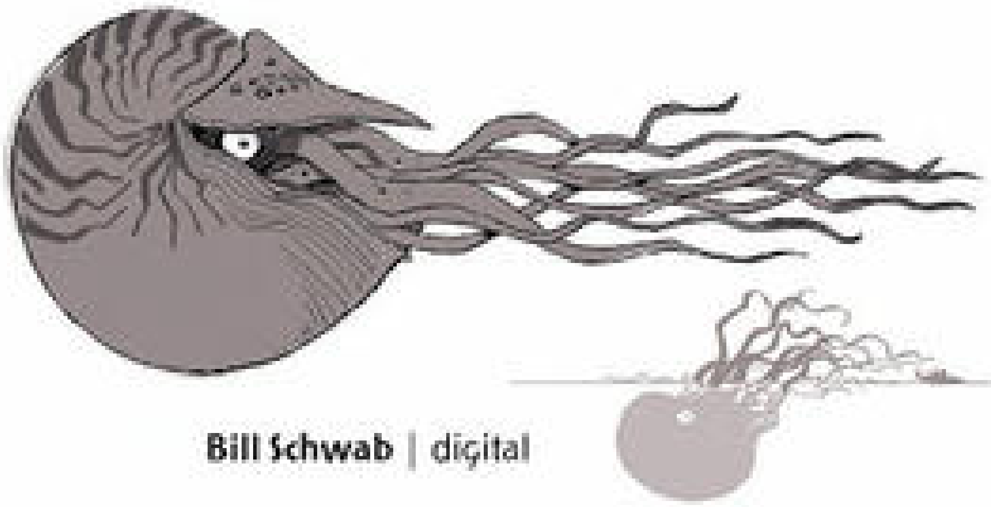
Bill Schwab | digital

Bill Schwab | digital

The monsters in Lalotai were inspired by real fish and flora found in the deep sea, like angler fish and bioluminescent deep sea eels, but there's also an eight-eyed bat and a monster eel from the Maui legends. So they're fantastic but grounded in something real.
— Bill Schwab, art director of characters

Bill Schwab | digital

Bill Schwab | digital

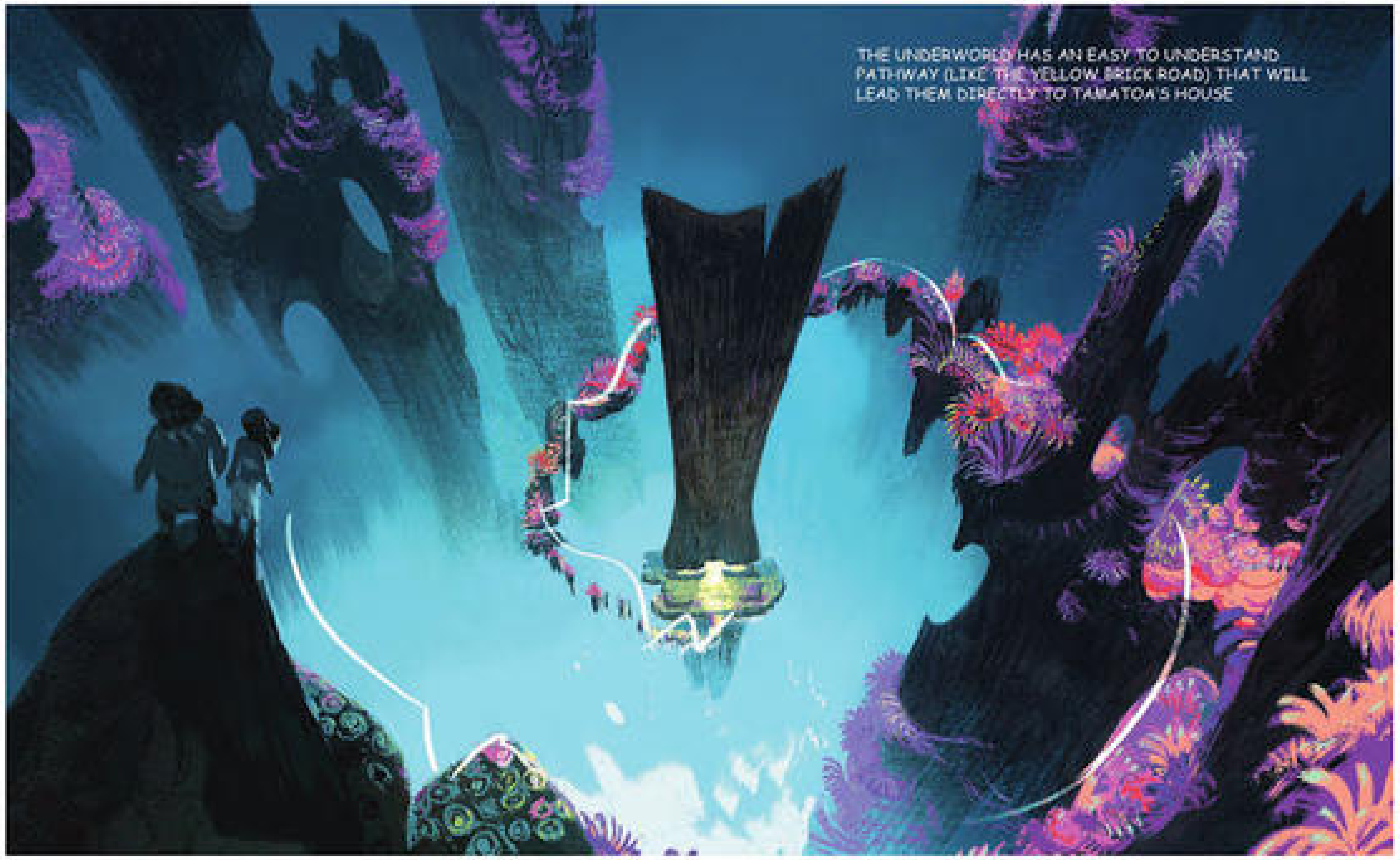


Bill Schwab | digital

Bill Schwab | digital

Jin Kim | digital

Griselda Sastrawinata-Lemay | digital

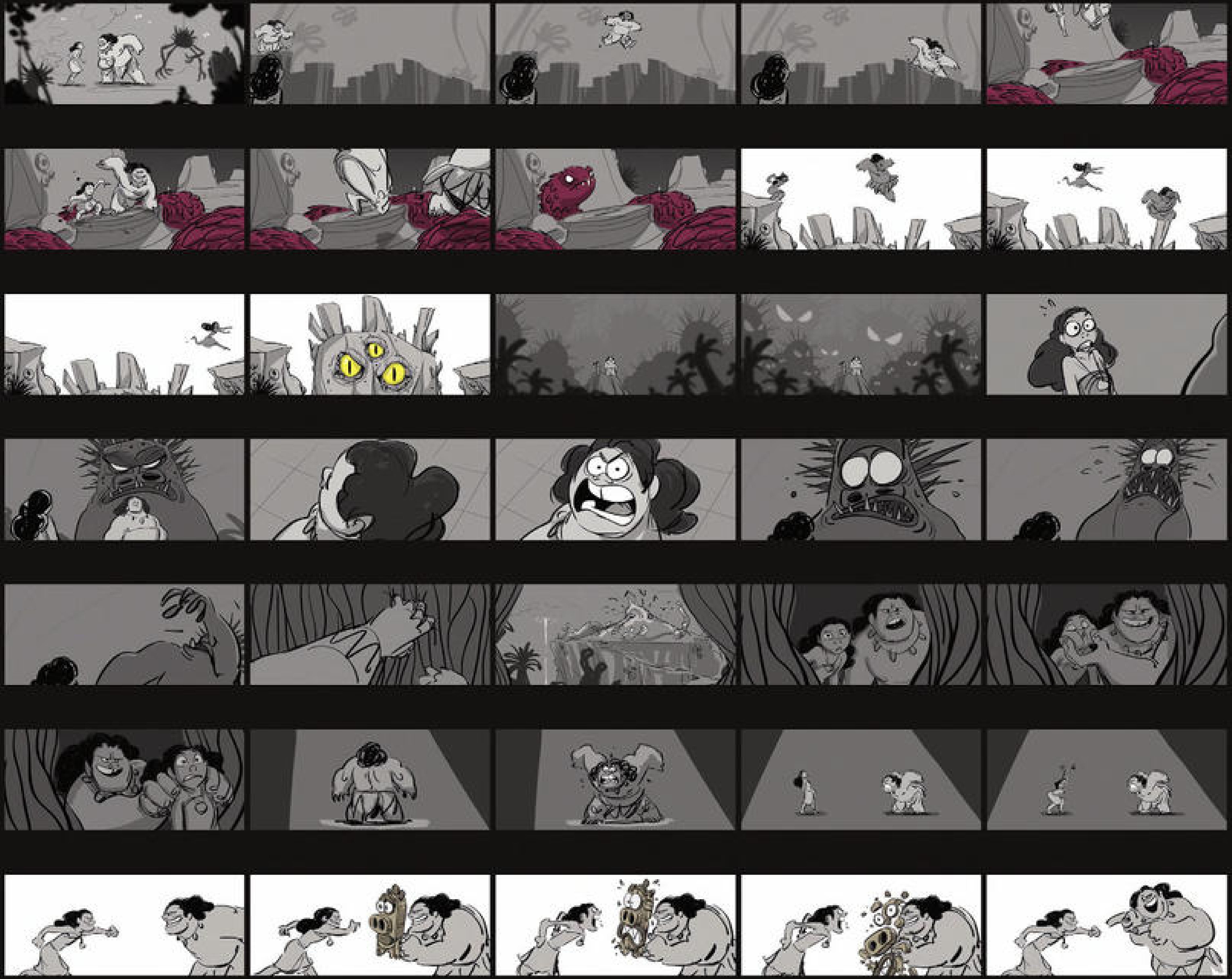

THE UNDERWORLD HAS AN EASY TO UNDERSTAND PATHWAY (LIKE THE YELLOW BRICK ROAD) THAT WILL LEAD THEM DIRECTLY TO TAMATOA'S HOUSE

Kevin Nelson | digital

Kevin Nelson | digital

Kevin Nelson | digital

Kevin Nelson | digital

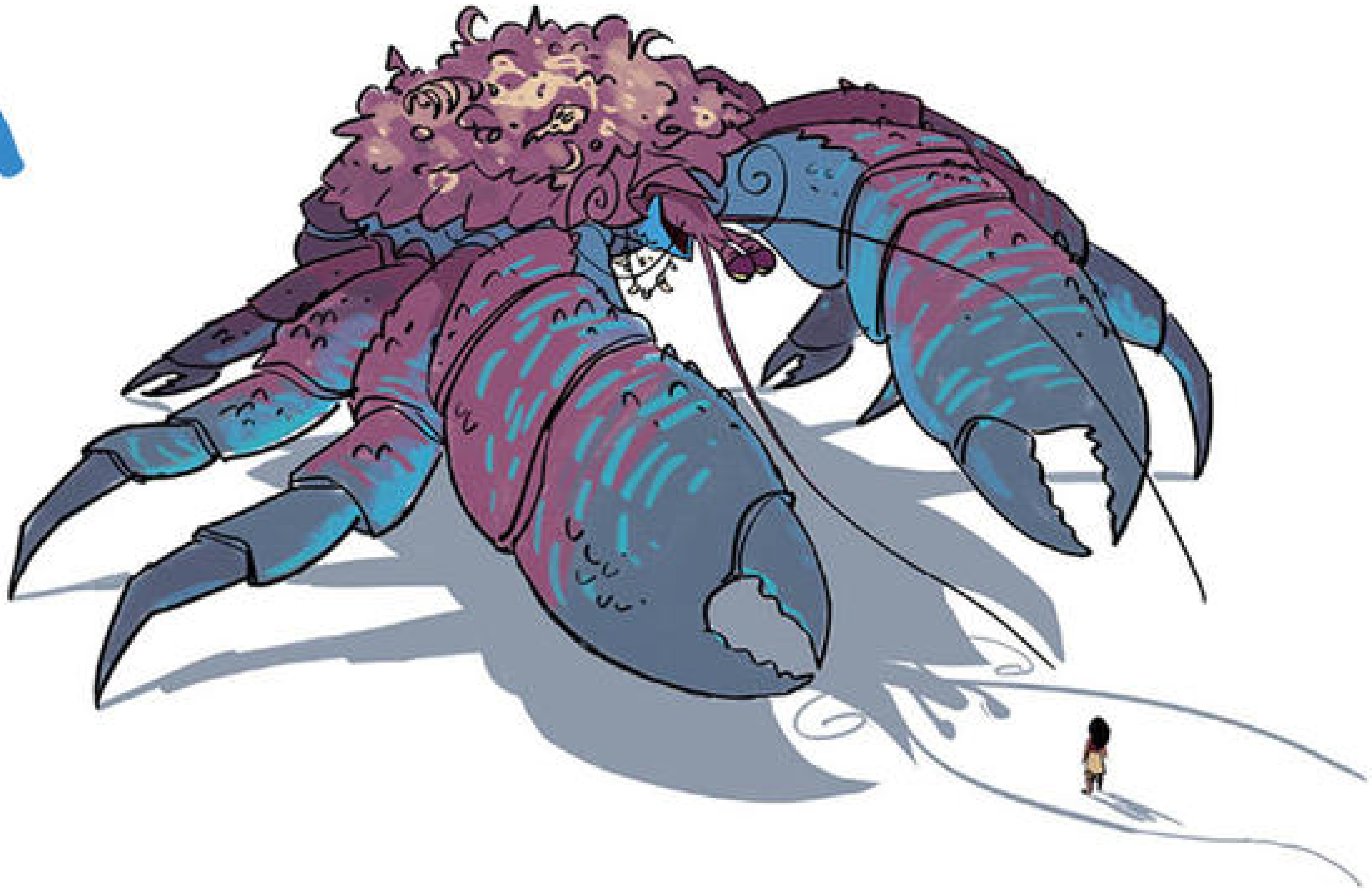


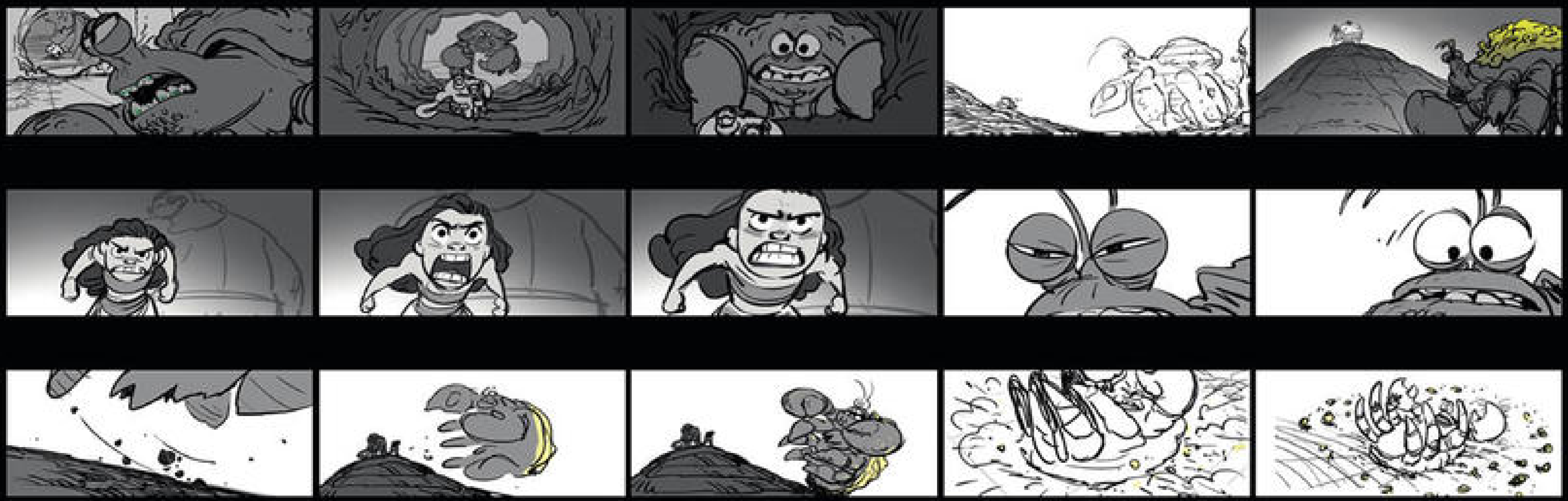
storyboards | **Ryan Green** | digital

TAMATOA

Tamatoa is a coconut crab. They are huge and scary-looking, strong enough to crack coconuts. They're hermit crabs that grow out of their shells and have to find new ones, which inspired his character being a collector. He's like new money, covered in bling and has all this stuff but absolutely no taste.

—Bill Schwab,
art director of characters





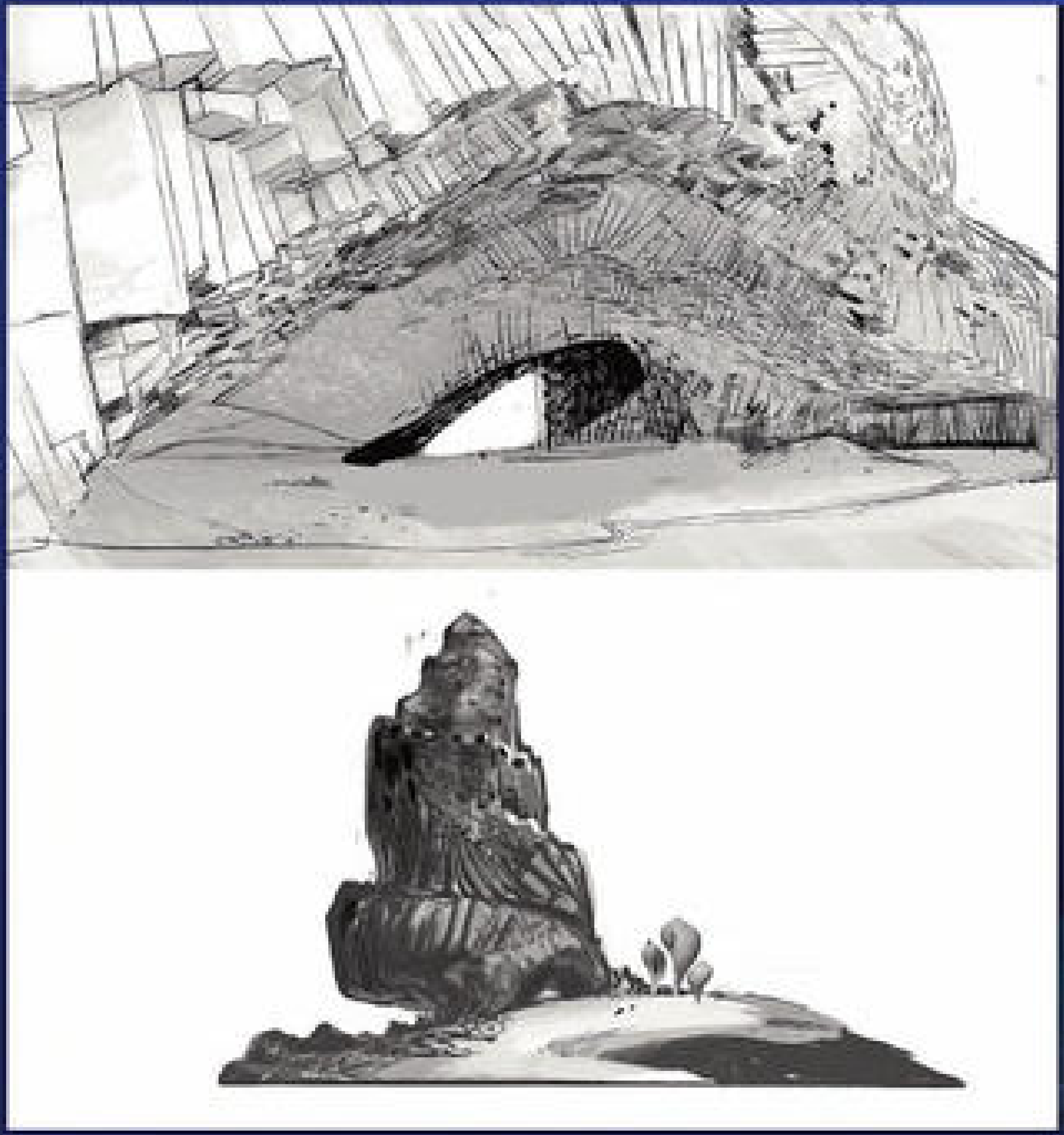
storyboards | **Normand Lemay** | digital

Alena Wooten-Tottle | digital sculpt

Alena Wooten-Tottle | digital sculpt

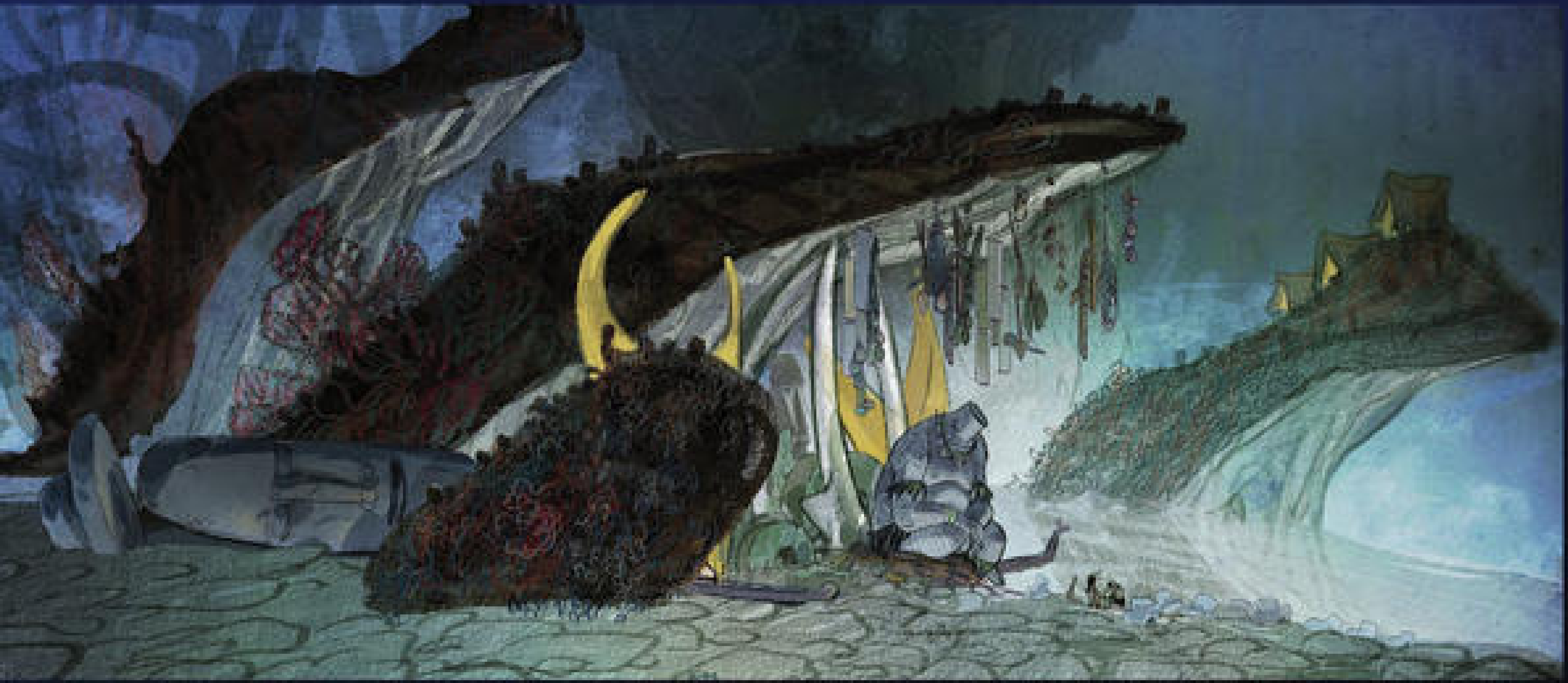
Leighton Hickman | digital

Bill Schwab | digital



Mehrdad Isvandi | digital

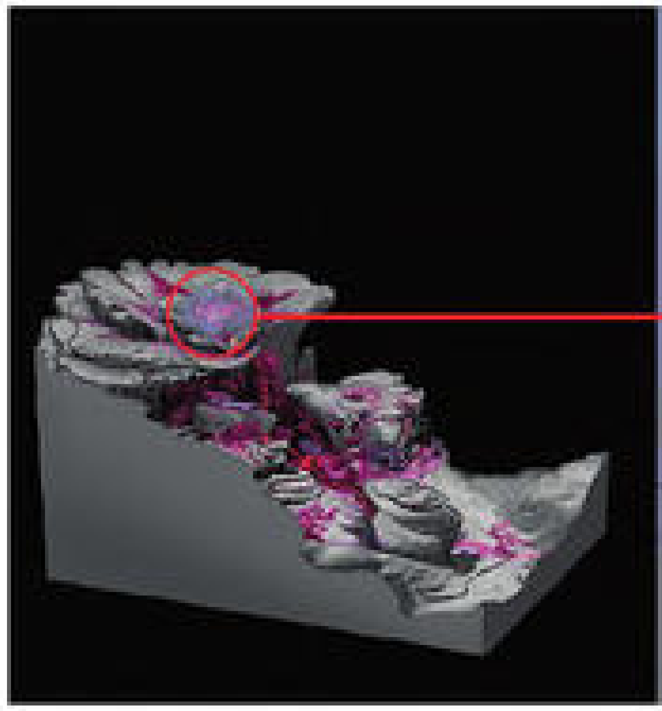
Mehrdad Isvandi | digital



Manu Arenas | digital

Tamatoa's lair is the inside of a shell, with walls made of mother-of-pearl. He's camouflaged by all the gold covering his back and on the floor, until he's coming after you.

— Andy Harkness,
art director of environments

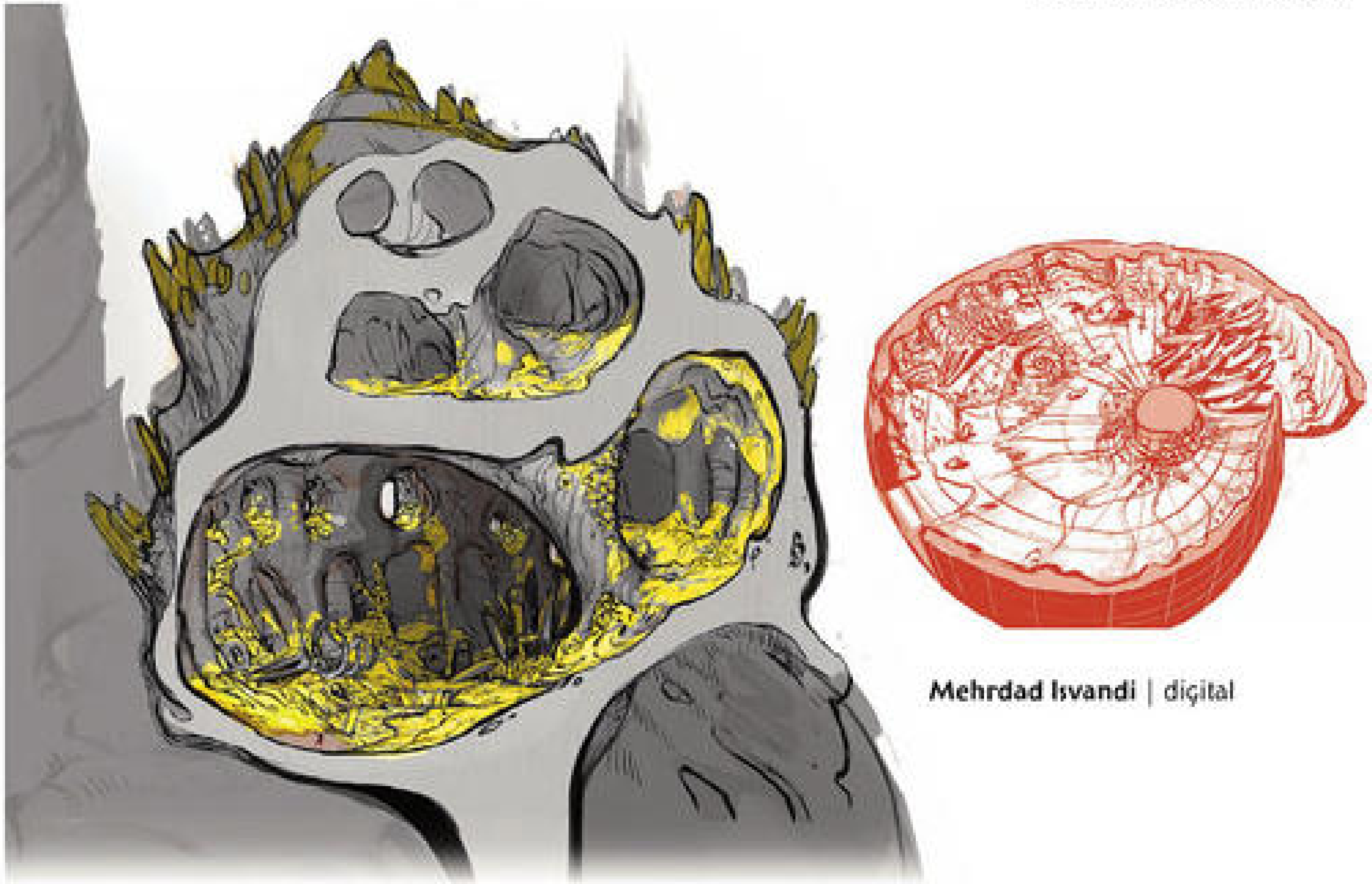


Mehrdad Isvandi | digital

Mehrdad Isvandi | digital

Mehrdad Isvandi | digital

Manu Arenas | graphite, ink



Mehrdad Isvandi | digital

TE KĀ

From the beginning, the filmmakers knew that taking a volcano and turning her into the most imposing character of the film would be an ambitious undertaking and require a special collaboration between the visual development, effects, and animation departments. For an initial design concept, the visual development team started playing around with the exciting properties of lava. As visual development artist Kevin Nelson recalls, "In the beginning, we started thinking of her as made out of lava. It's not that lava is evil, but when you see it up close, it's scary. You're drawn to it, but it's dangerous!"

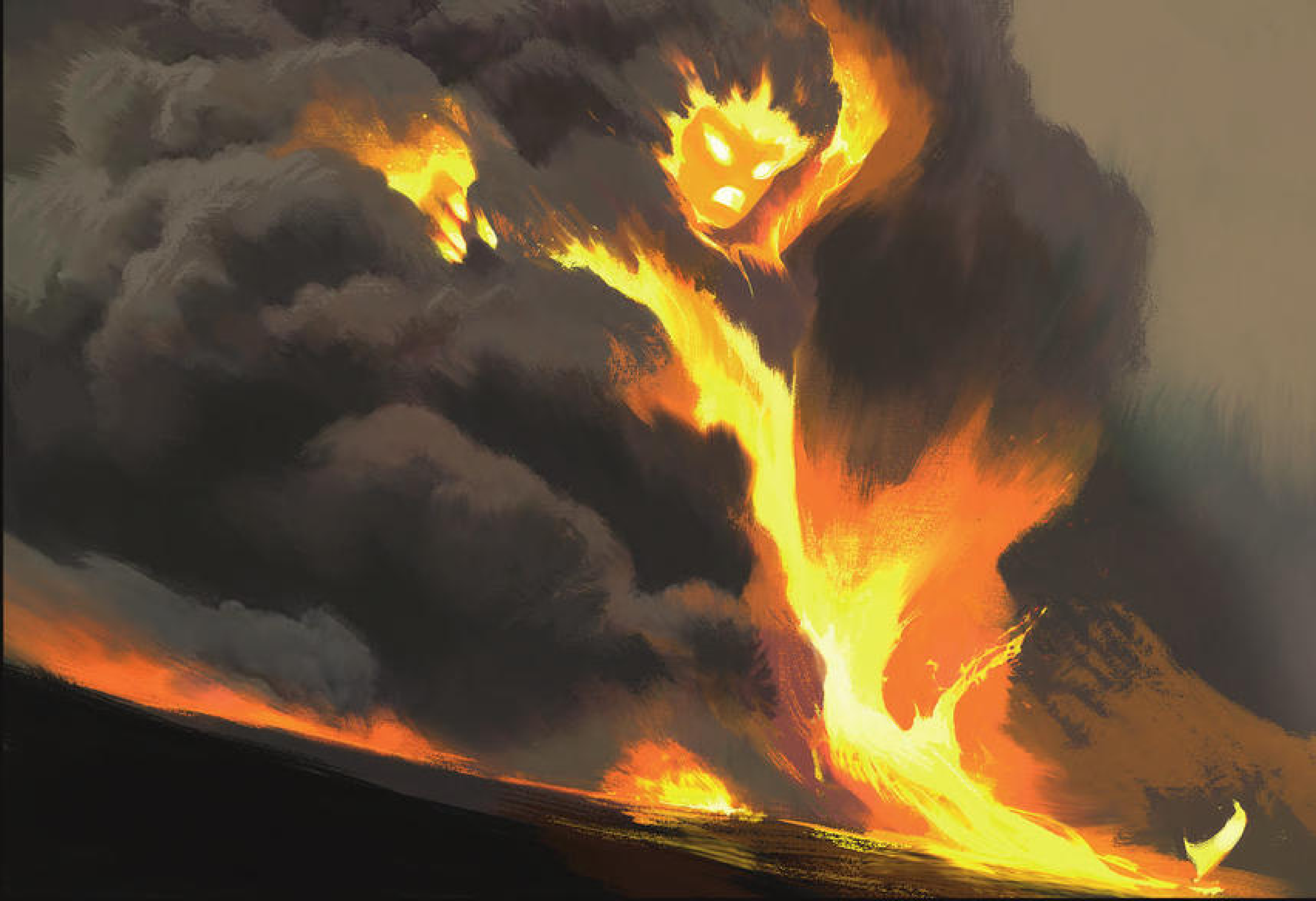
"Lava has all these exciting qualities that make the character unique," agrees Marlon West, head of effects, "but it also can distract from a character performance."

The artists confronted this challenge in an early animation test when, West explains, "the animators brought to life this really beautiful and angry woman, and then we in effects tried to turn it into a monstrous lava being. It was difficult to get what the animators wanted and still have her look believably created from lava."

"Kevin Nelson helped us completely rethink the character," states production designer Ian Gooding. "He reasoned that, for instance, if the lava hair pouring down gets in the way of performance, then let's obscure it with smoke, and have the hair represented by smoke that goes up. That way, it's not around the face, but going offscreen instead, so we don't have to deal with it."

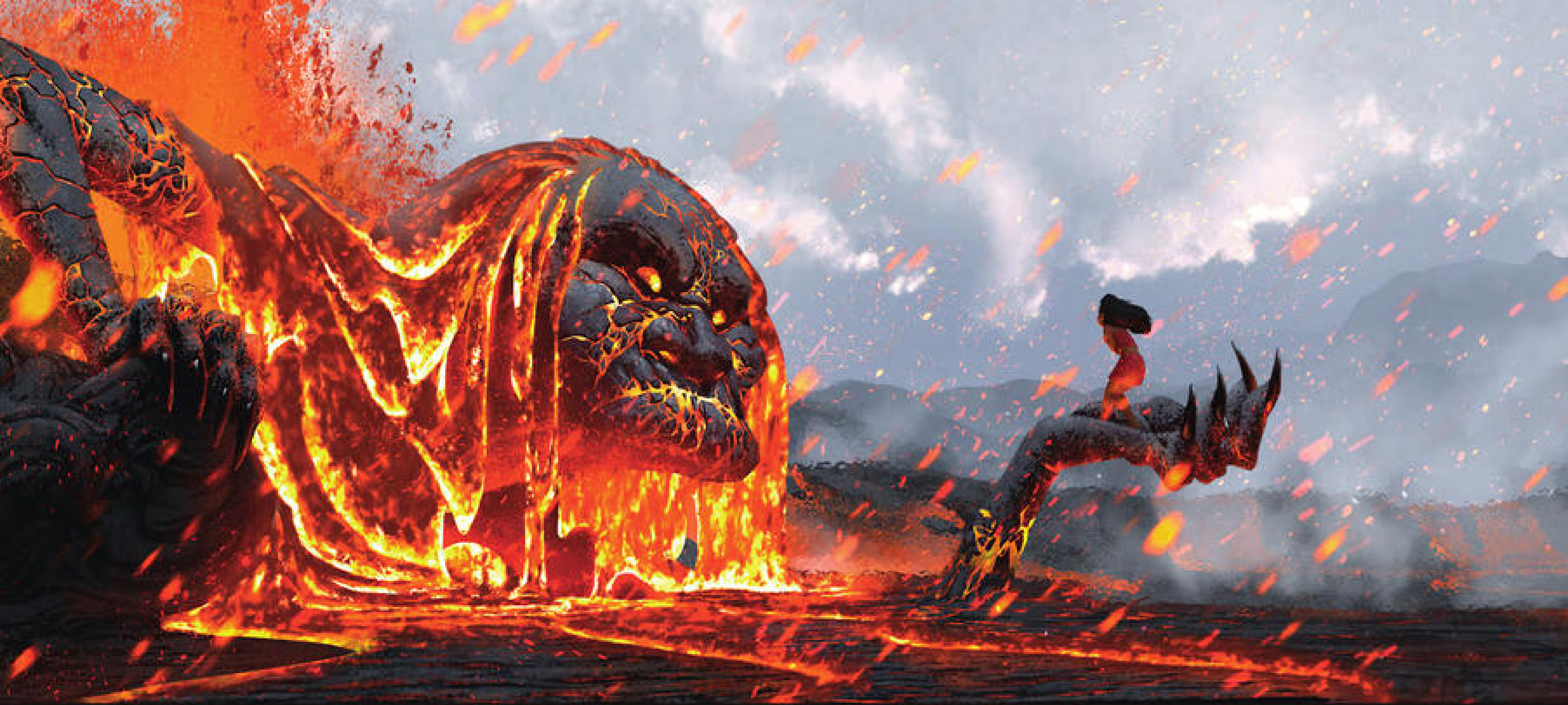
"Kevin's smoky designs were very inspiring for us," agrees head of effects Dale Mayeda, "and helped us settle on a more pyroclastic look for Te Kā. Now she's made more out of this flow of volcanic billowing smoke and you see her hands and face, but less of her body. The smoke design gave us a great sense of scale."

Ian Gooding | digital

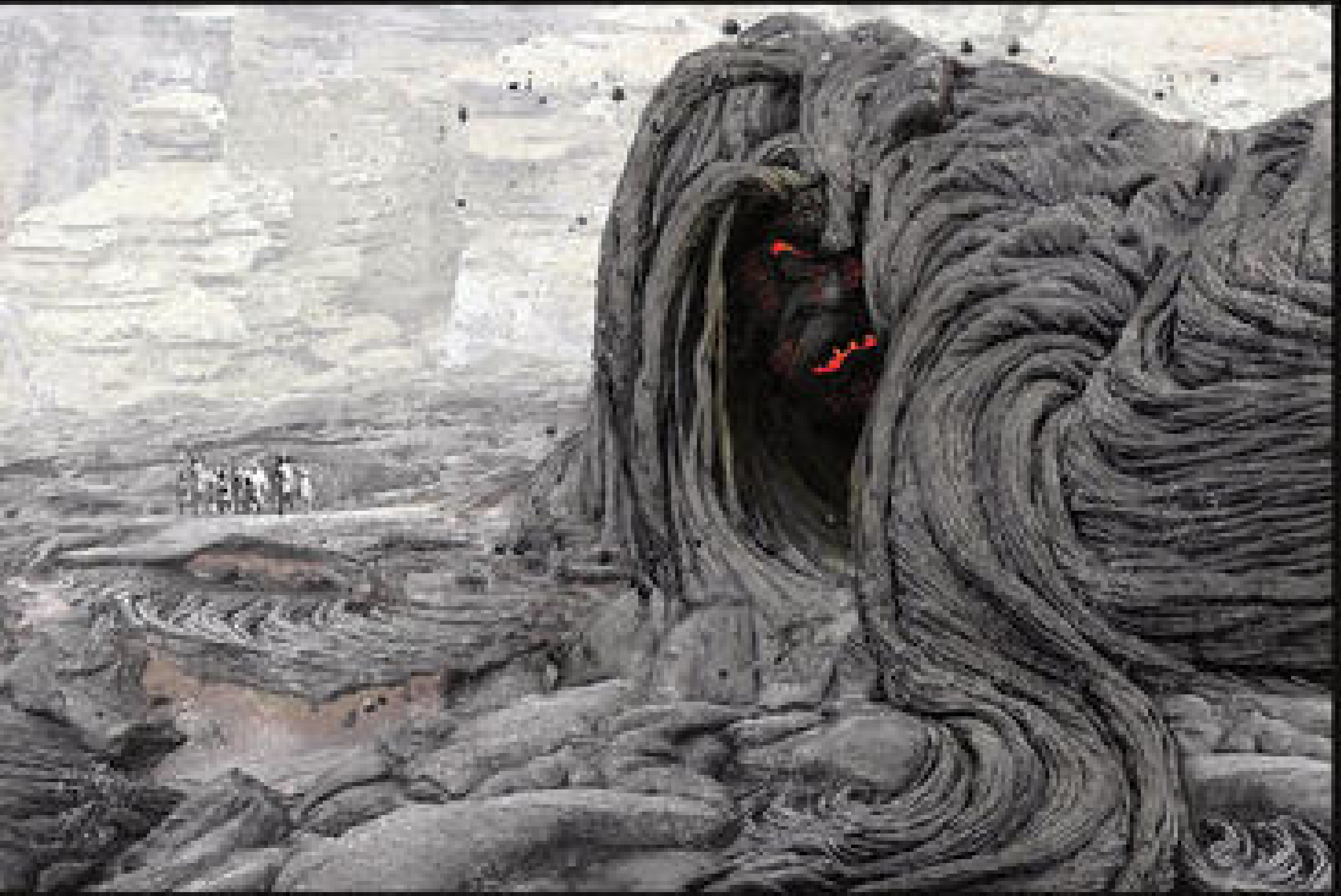


Kevin Nelson | digital

Pyroclastic smoke has a very specific look. It's not thin and wispy, but naturally creates these almost cauliflower-shaped blooms that are really detailed.
— Dale Mayeda, head of effects

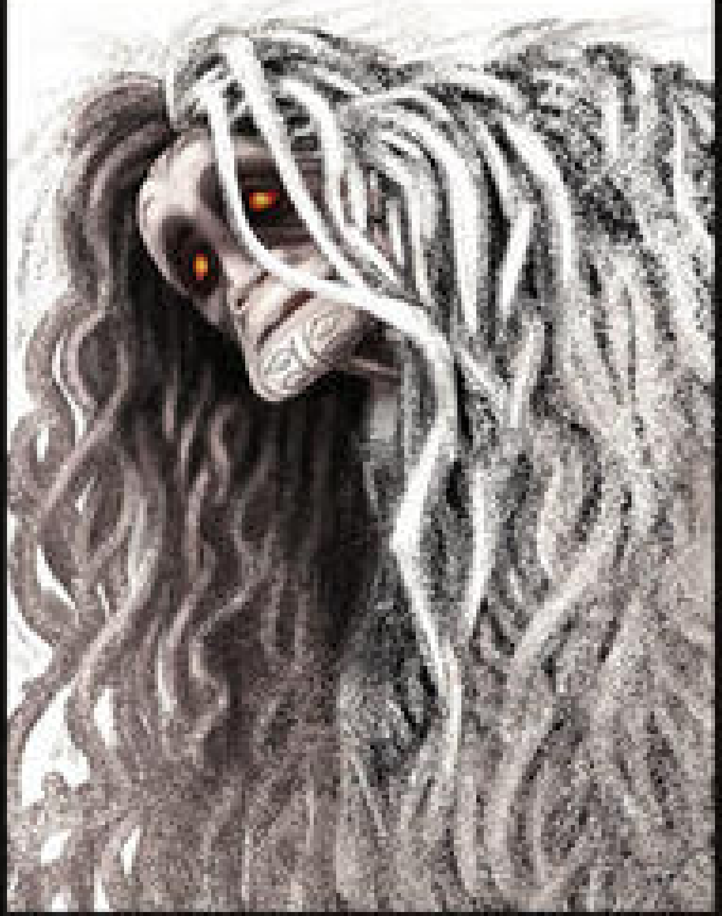


Ryan Lang | digital



Sue Nichols Maciorowski | digital

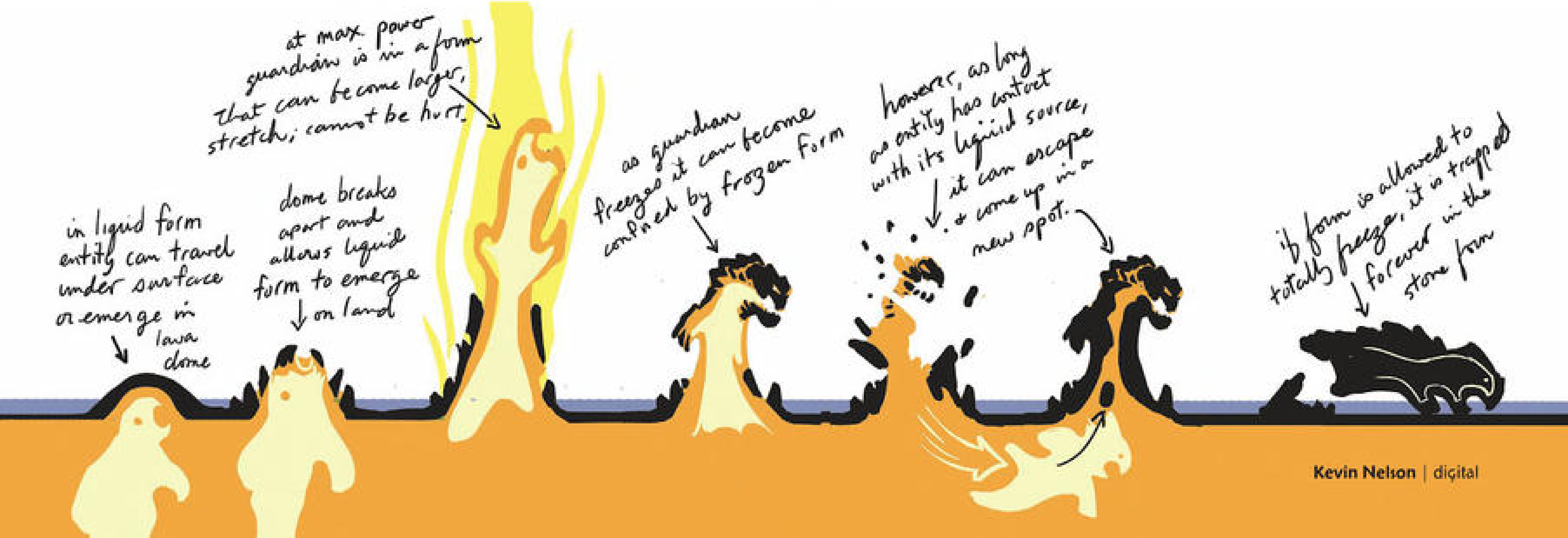
We achieved Te Kā's supernatural quality by playing with proportions and features. You can recognize her as having a female face, but we've crunched her eyes and mouth together so there really isn't room for a nose, which gives her an angular and simplified face.
— Kevin Nelson,
visual development artist



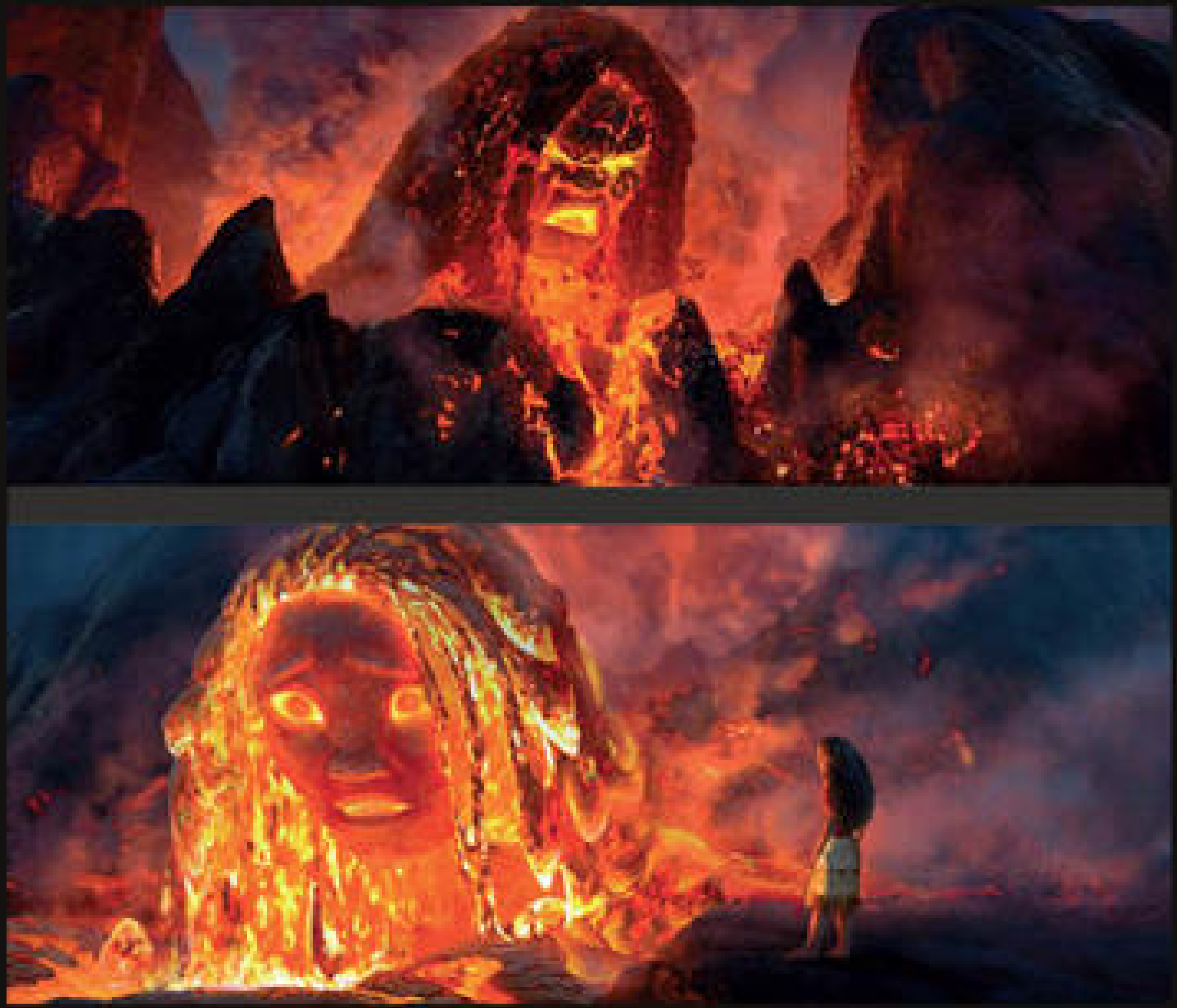
Sue Nichols Maciorowski | digital
page 145: **Ian Gooding** | digital

Kevin Nelson | digital

[Visual development artist] Kevin Nelson spent time thinking through the logic of the lava monster. How does she move? When she's angry does she harden? How do we play with the physics and what rules can we bend to get our story across?
– Osnat Shurer, producer

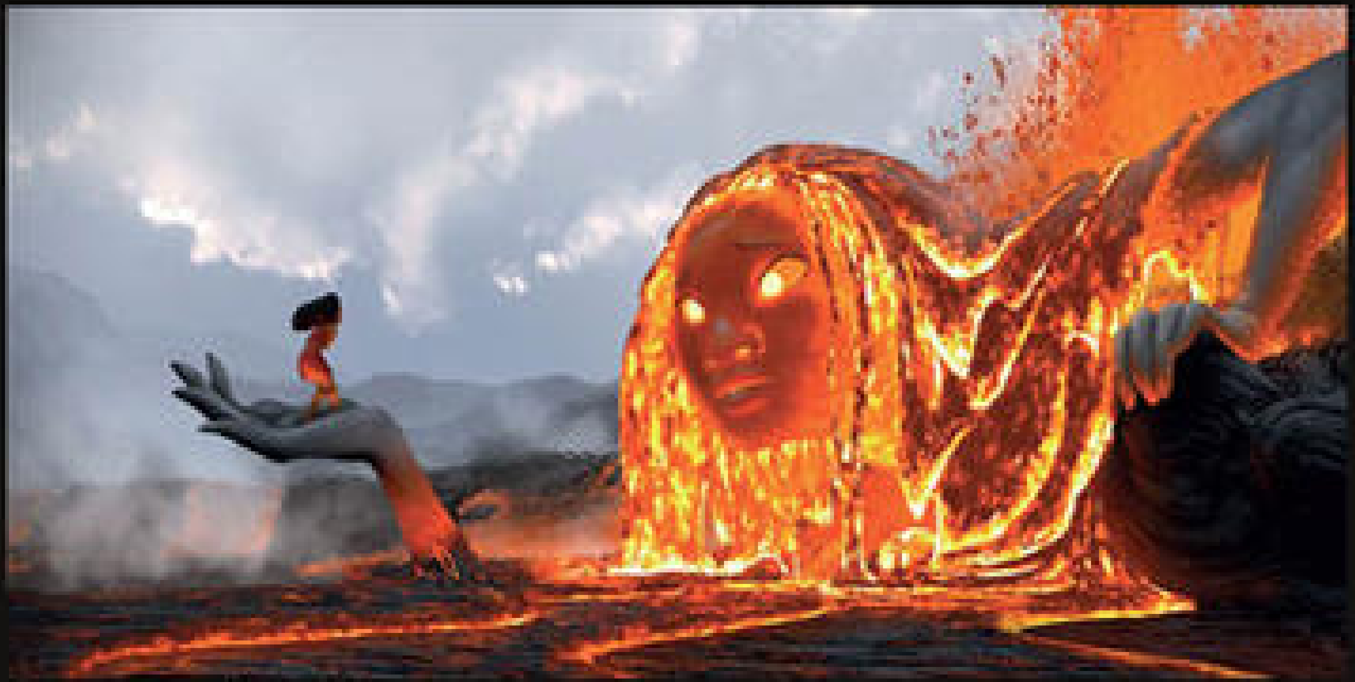

in liquid form entity can travel under surface or emerge in lava dome
dome breaks apart and allows liquid form to emerge on land
at max power guardian is in a form that can become larger, stretch; cannot be hurt.
as guardian freezes it can become confined by frozen form
however, as long as entity has contact with its liquid source, it can escape & come up in a new spot.
if form is allowed to totally freeze, it is trapped forever in the stone form

Kevin Nelson | digital



Andy Harkness | digital paintover

In animation, we wanted to feel the softness and subtleness of Te Kā's performance, but with all the lava dripping down it became distracting quickly.
— Amy Smeed, head of animation

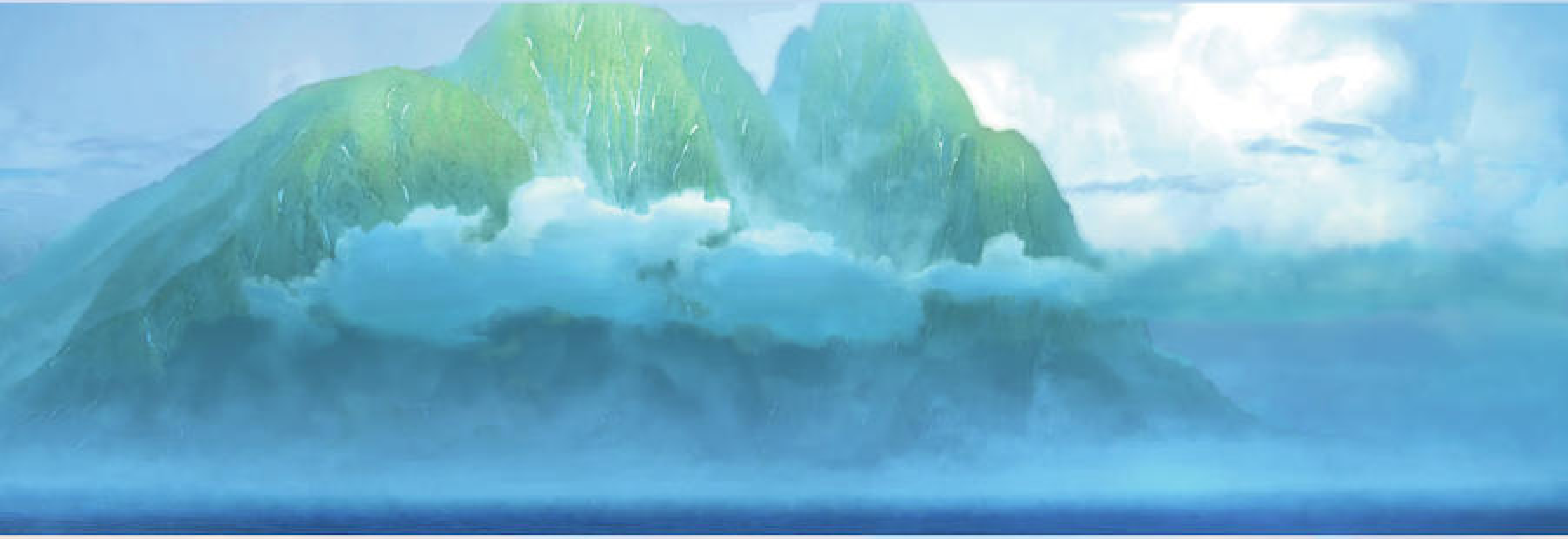


Ryan Lang | digital

Ian Gooding | digital

Ian Gooding | digital

TE FITI



Andy Harkness | digital

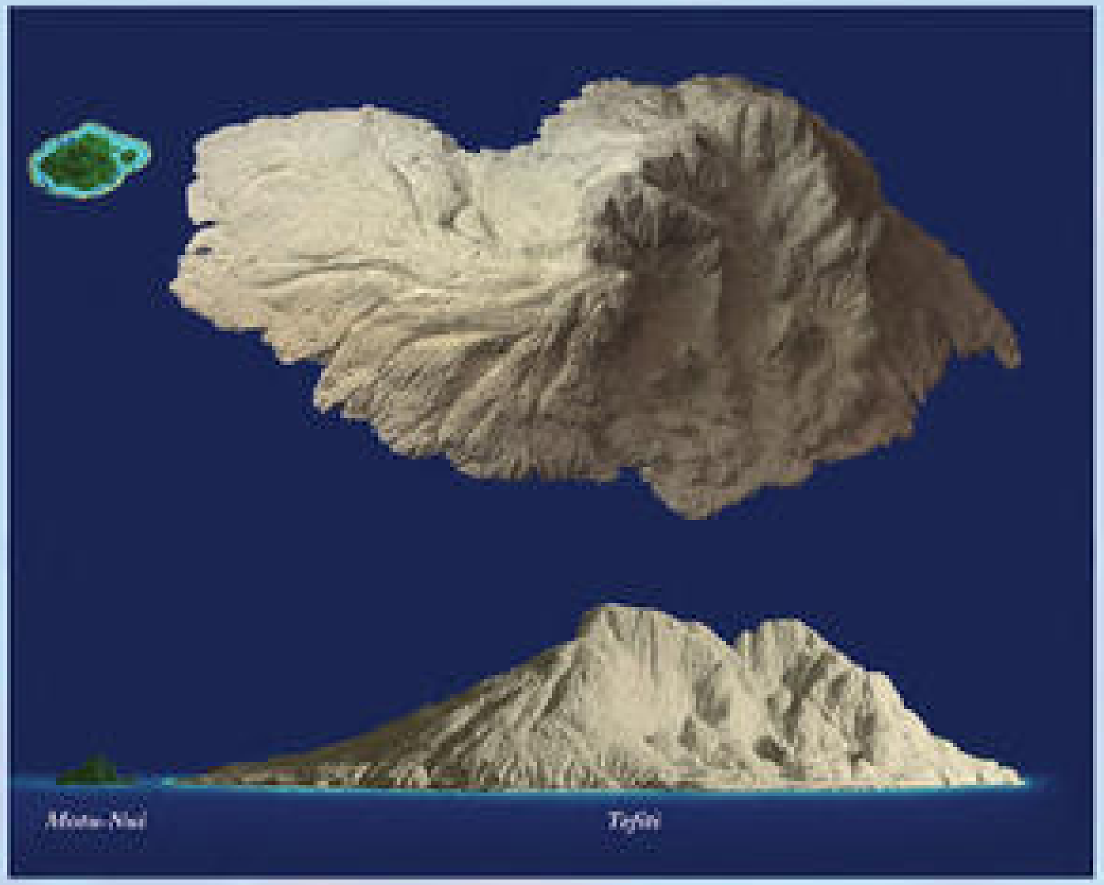
The climactic battle of the film between Moana, Maui, and the volcano monster Te Kā is a fight over the island of Te Fiti, the mother island. "Te Fiti is Shangri-la," explains production designer Ian Gooding. It was a perfect place that Maui destroyed a thousand years ago by stealing its heart. Moana is determined to restore Te Fiti to life.

Gooding, along with art director of environments Andy Harkness, needed to find a unique look for such a special island. To do this, the design team decided to accentuate the cool green color palette of the island, and surround it with black sand that plunges straight into ultramarine water. "Black sand is unexpected," says Gooding. "People usually think of white beaches. But Tahiti, which is actually the youngest and biggest island in that chain, doesn't have white sand beaches, only black."

Striving for a uniquely feminine shape for Te Fiti, which is part island, part spirit, Harkness took an unusual, if inspired, approach. "My idea was that Te Fiti is shaped like a woman lying down. So I asked my wife to pose with a sheet draped over her. From an aerial view you would see her form. Her hair is remnants of a huge lava flow." From this experiment, Harkness began to sketch and model a unique island, worthy of Moana's harrowing journey.

In the end, Moana takes on many fantastical, incredible creatures and challenges, all to save her people. In so doing, she hones her skill as a navigator and a leader, learns the depths of her strength, and makes a lifelong friend in the demigod Maui. She, a tiny human, becomes a part of *his* legend, emblazoned forever over his heart.

Andy Harkness | photo



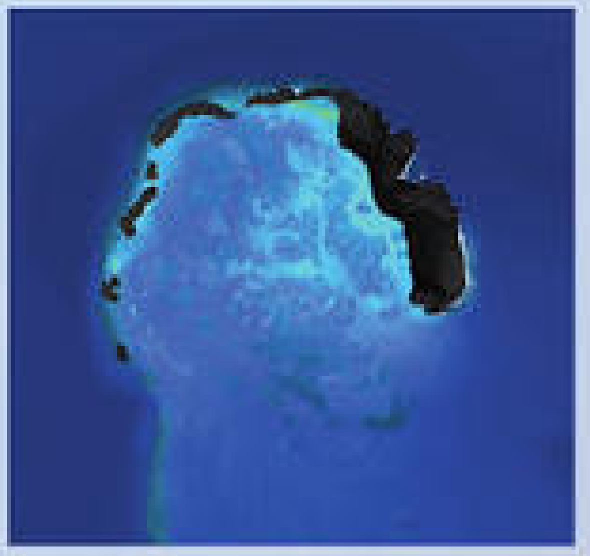
Andy Harkness | digital

Te Fiti is a new island. The color scheme is cool, almost all blue greens, like fresh mint, with a rich, red soil. That's all contrasted against black rock from newer lava that hasn't baked away yet, and with no time for a reef to form it is ringed by deep water that's an intense, ultramarine blue.

– Andy Harkness,
art director of environments

storyboard | **Fawn Veerasunthorn** | digital

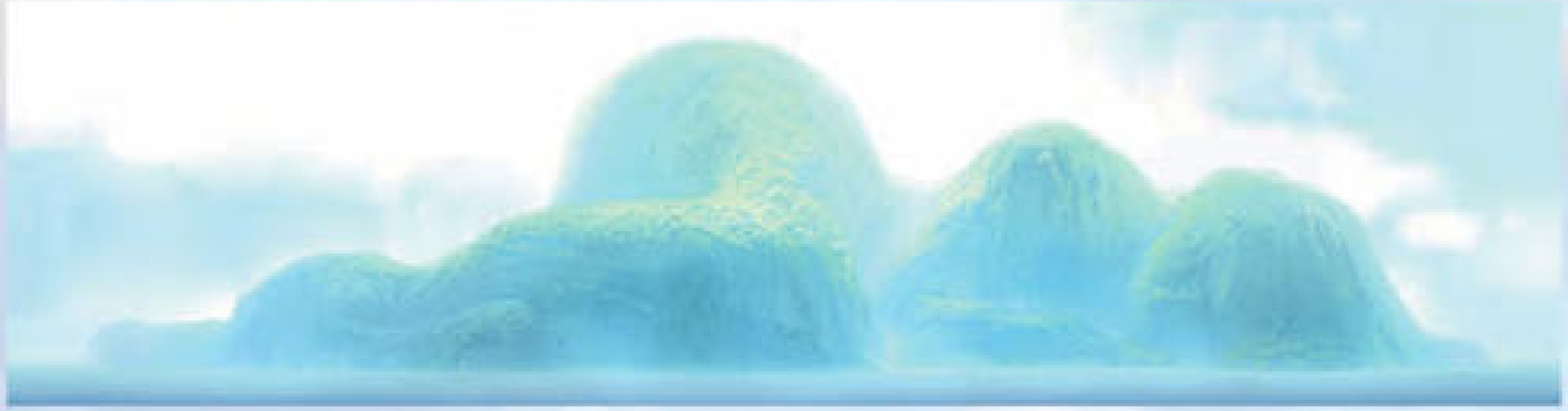
Jean-Christophe Poulain | digital



Andy Harkness | digital

Mehrdad Isvandi | digital

Andy Harkness | clay sculpt



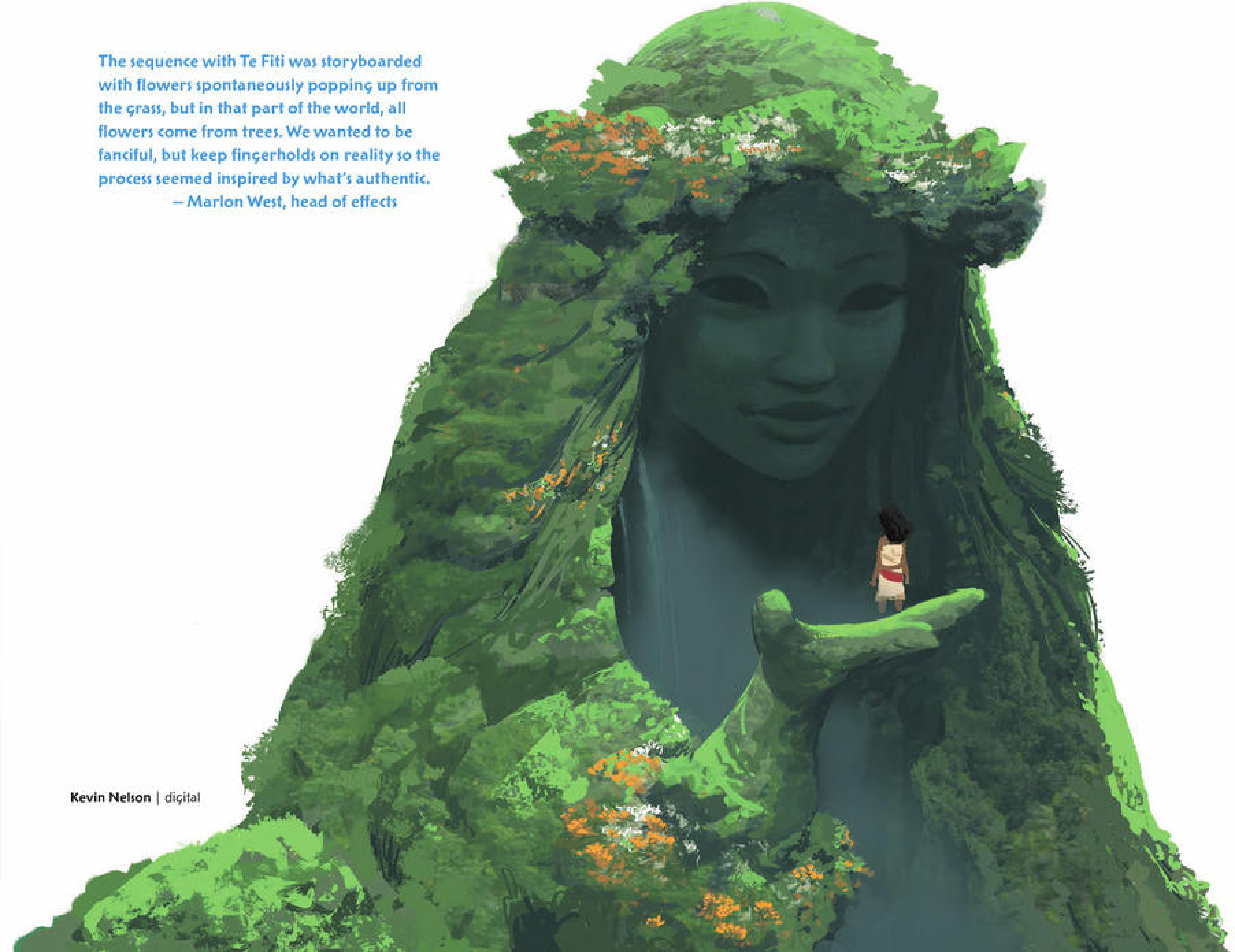
Andy Harkness | digital

Ryan Lang | digital

Scott Watanabe | digital

Kevin Nelson | digital

The sequence with Te Fiti was storyboarded with flowers spontaneously popping up from the grass, but in that part of the world, all flowers come from trees. We wanted to be fanciful, but keep fingerholds on reality so the process seemed inspired by what's authentic.
— Marlon West, head of effects

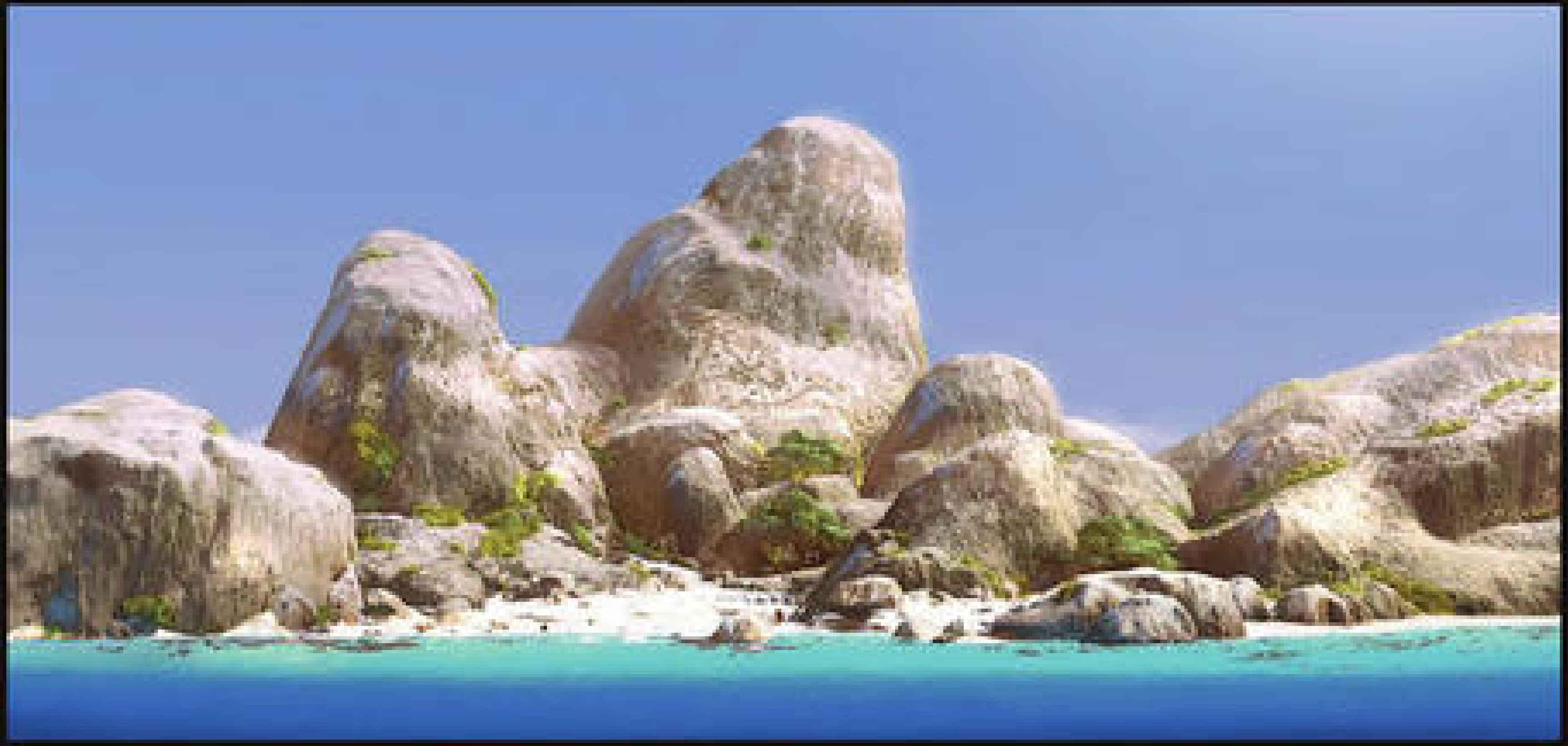


Kevin Nelson | digital

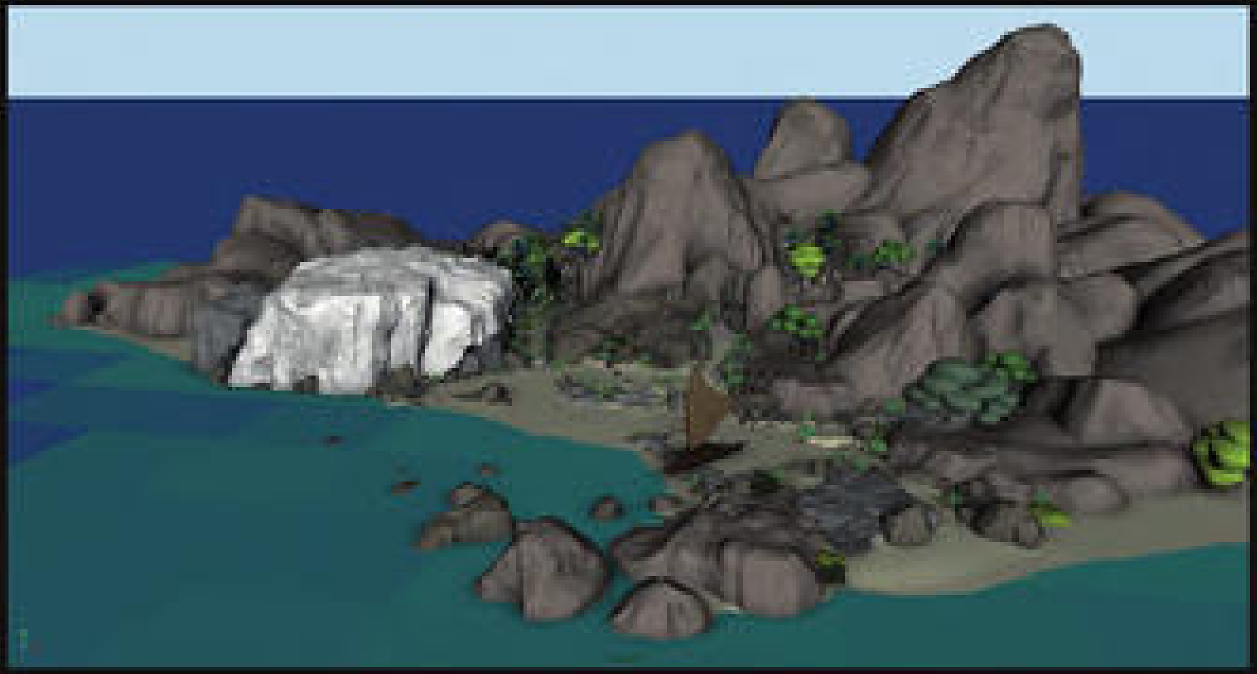
ENVIRONMENT MODELS

The line between the modeling and visual development departments often blurs during the course of production. When faced with an unexpected design decision due to a new camera angle or story point, this relationship between a modeler and art director often results in a richer and more dynamic story world.

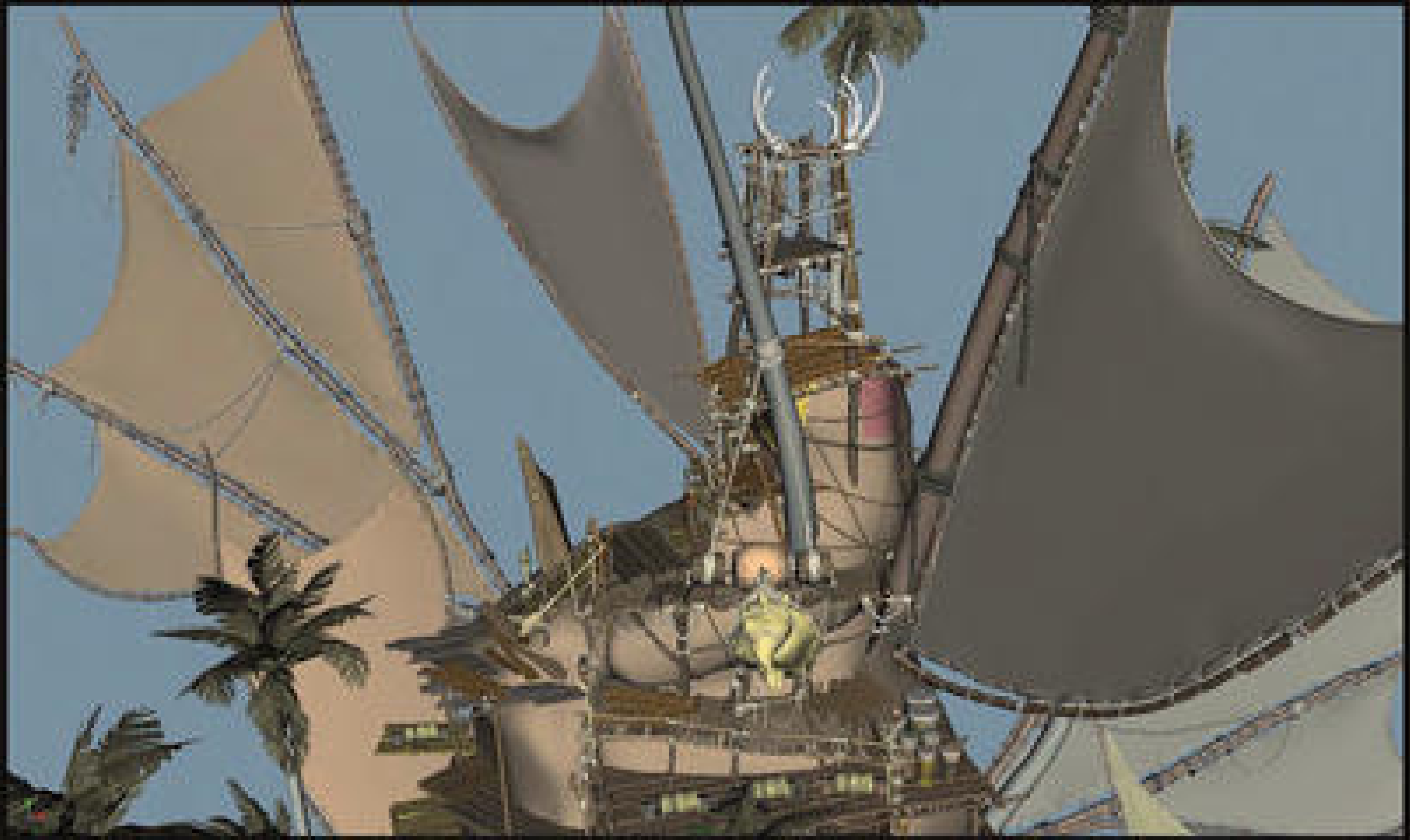
– Brien Hindman,
environment model supervisor



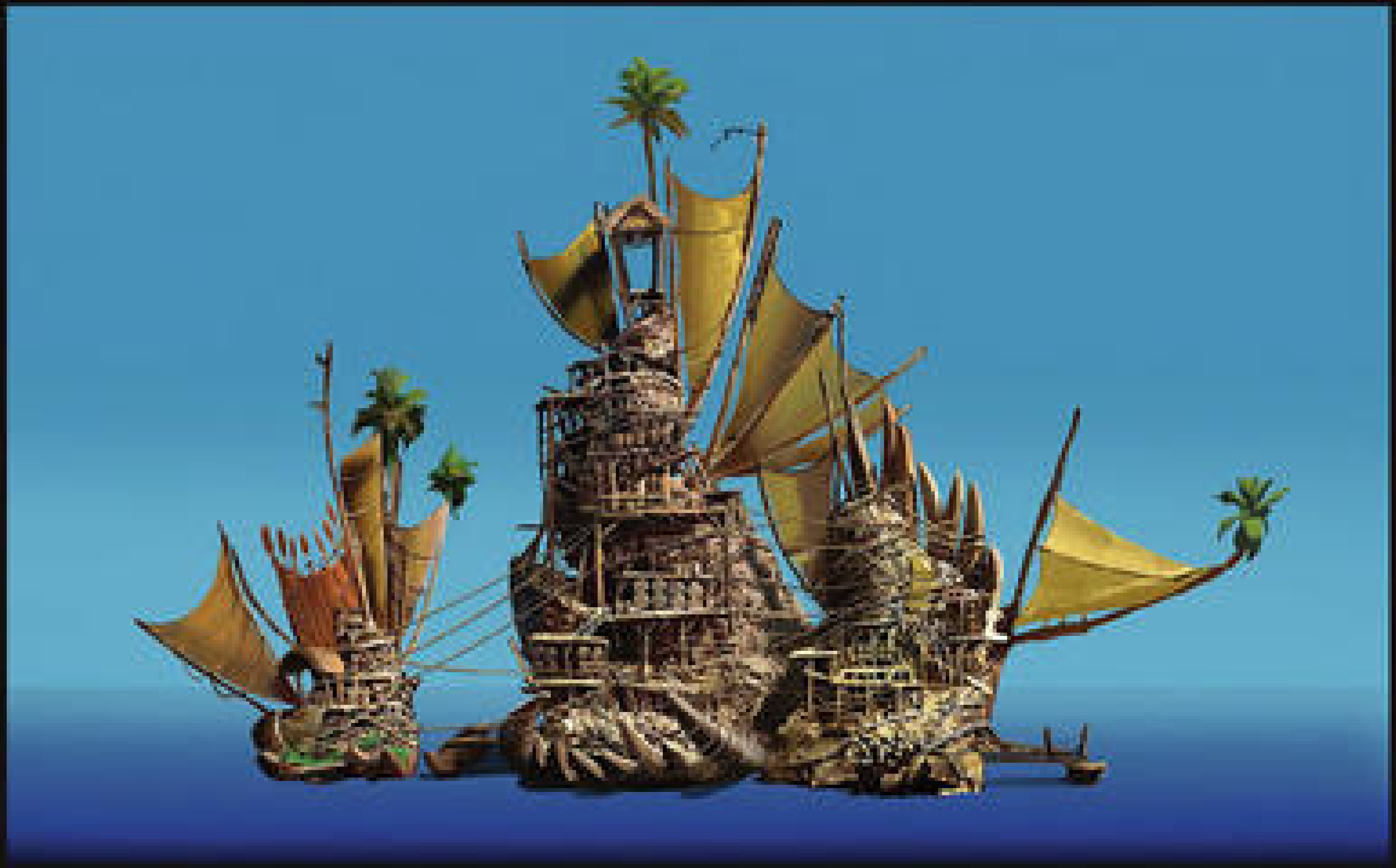
Andy Harkness | lighting paintover



Chris O'Connell | digital sculpt



Chris O'Connell | digital sculpt

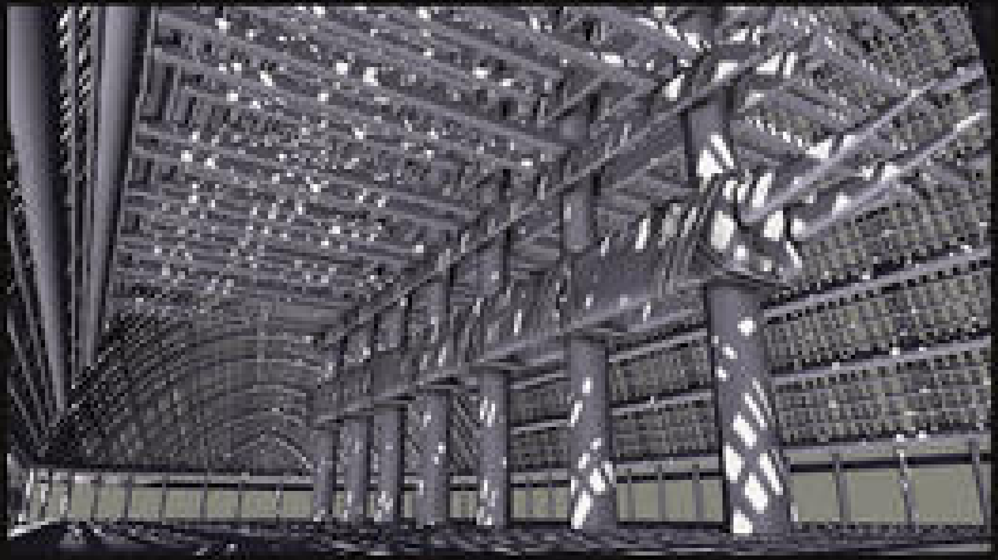


Mehrdad Isvandi | digital

Ian Gooding | digital

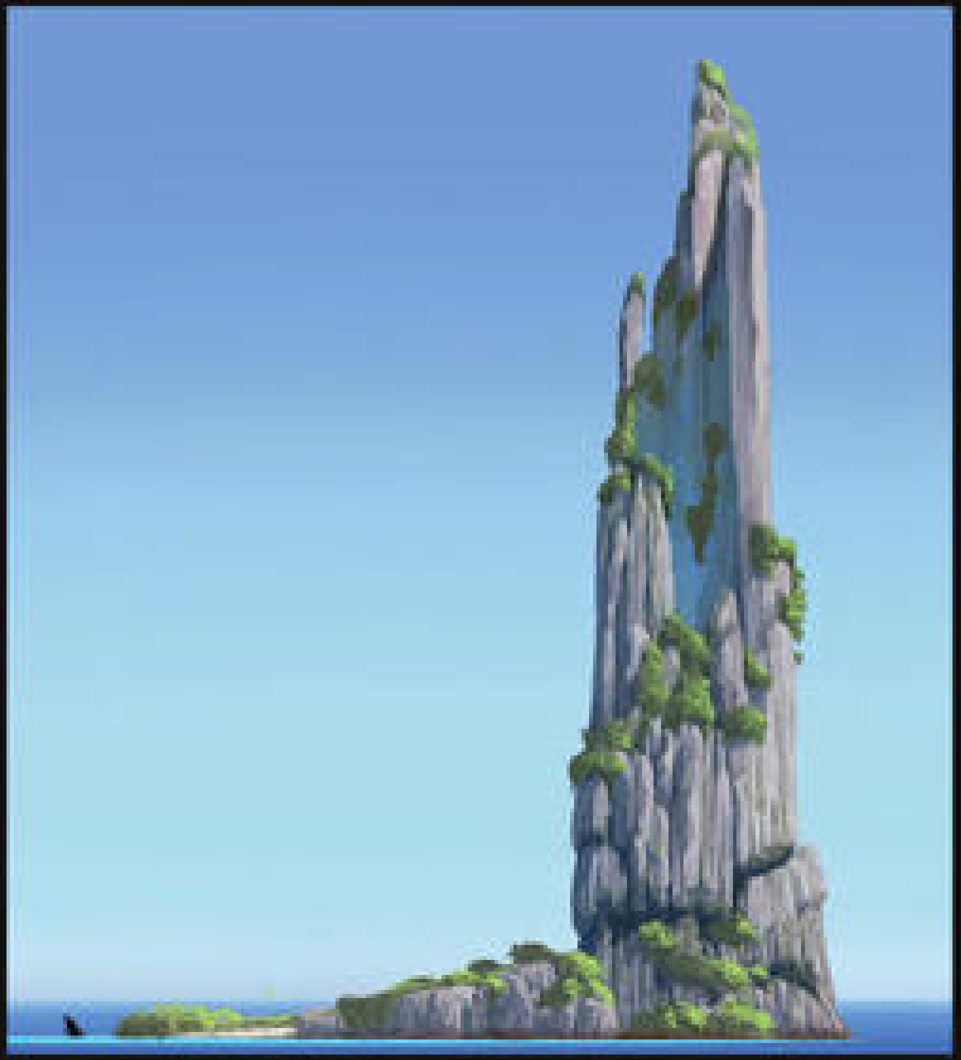
Jorge Obregon | lighting render

Brien Hindman | digital sculpt



Virgilio John Aquino, James Schauf | digital sculpt

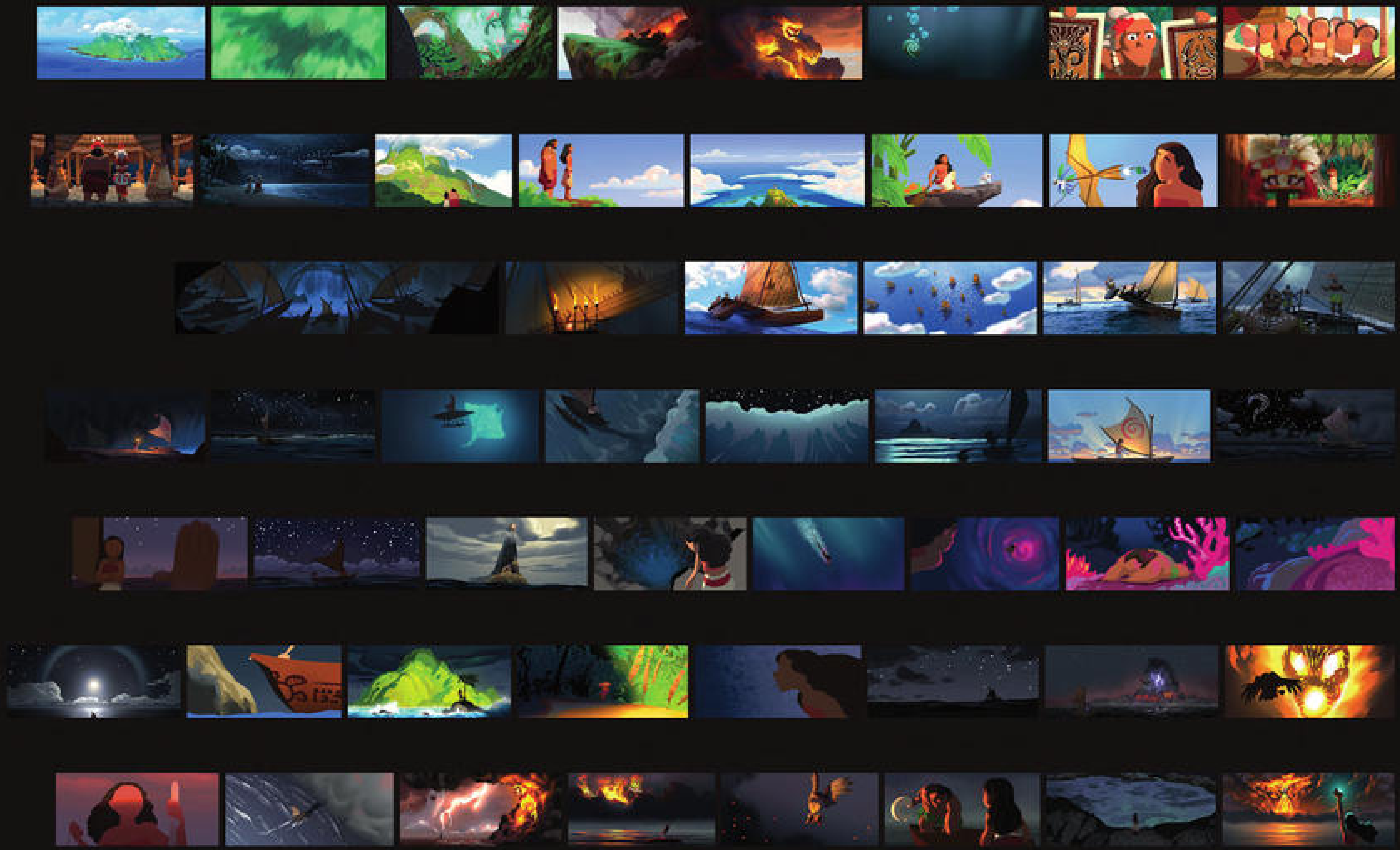
Charles Cunningham-Scott | digital sculpt



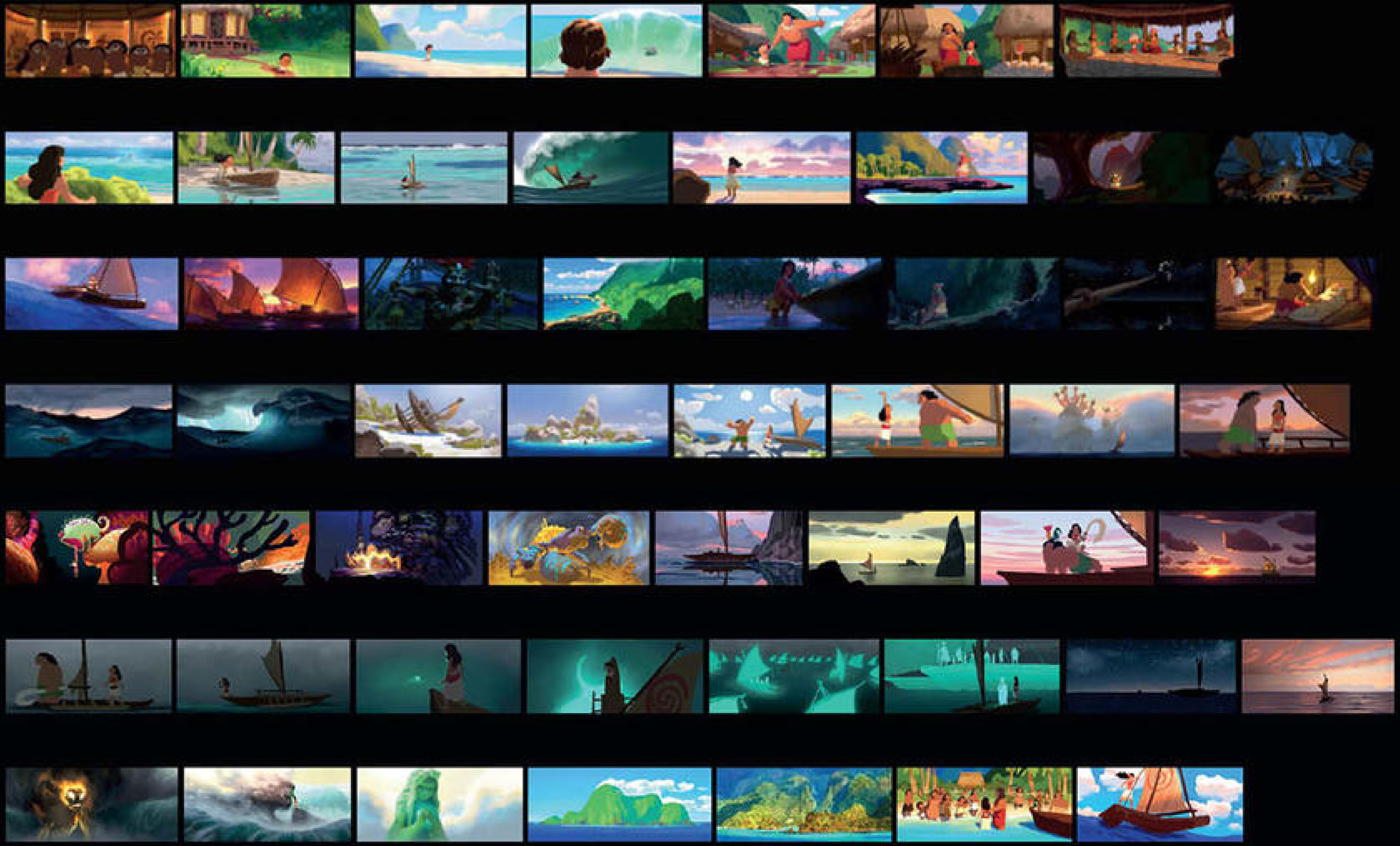
Andy Harkness, Kevin Nelson | digital

Florian Perret, Virgilio John Aquino | digital sculpt

COLOR KEYS



> To develop the color theory, we drew on the striking colors of the Pacific Islands. Great greens with lots of different hues, tons of magenta and red color accents, black lava rock.
>
> – Andy Harkness, art director of environments



Andy Harkness | digital

A CULTURE OF COLLABORATION

Jeff Ranjo | ink

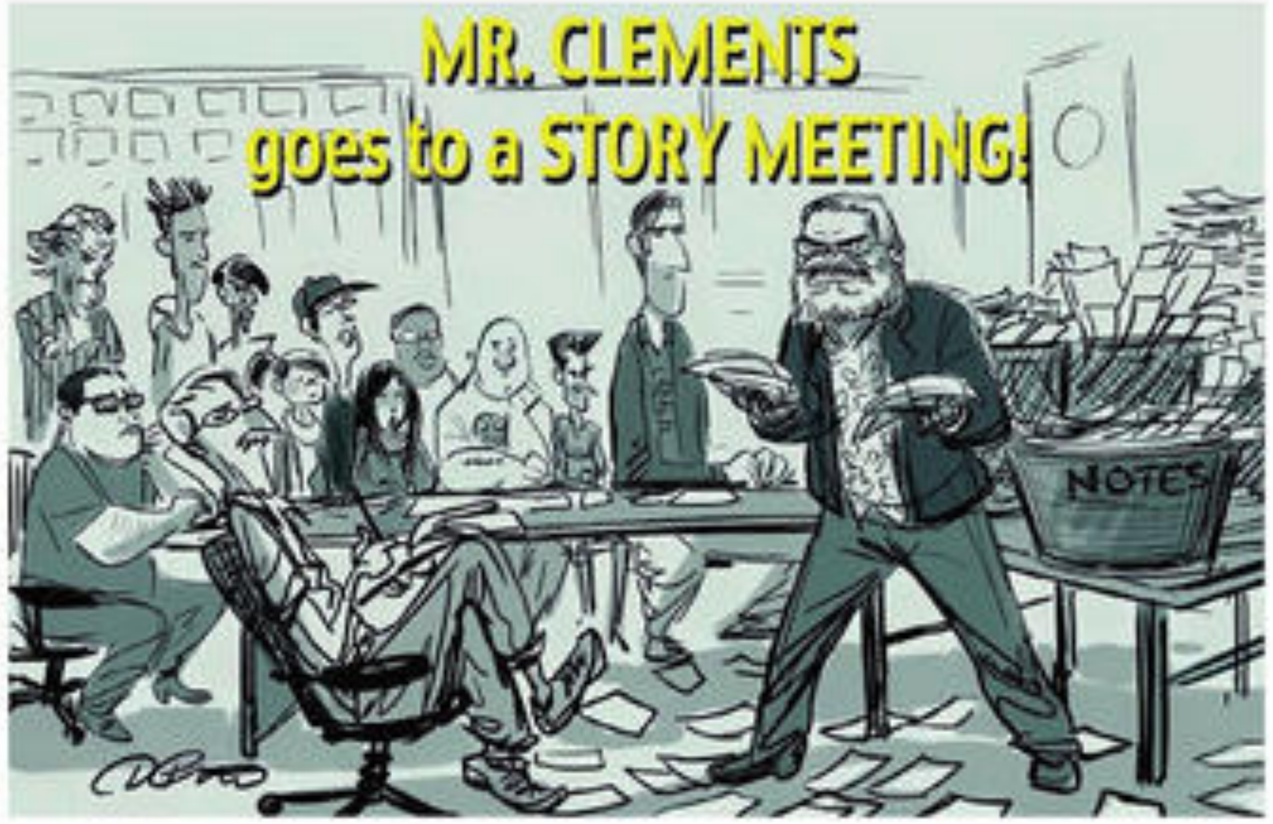
As passionate as the artists of *Moana* are about bringing the cultures of the Pacific Islands to life in an original, fantastical animated folktale, they are also fiercely proud of the culture of collaboration within the Walt Disney Animation Studios that enabled them to make the movie. This philosophy is in play across departments from software to effects, from animation to modeling and rigging. And where is it more evident than in the story room—where the story board artists are constantly sketching and recording the ups and downs and ins and outs of this collaborative community.

"The story room is a den of creativity," says head of story David Pimentel. "It is a protected space of free-form ideas that are collectively pulled together, and funnel into a stronger story at the end."

Co-director Chris Williams further explains the philosophy that guides the story room, as well as the artistic culture of the studio in general. "The most critical thing to a functioning story room, and to any production department for that matter, is that we foster a collaborative environment where people don't get attached to ideas, but can build on other people's pitches. And it's through this collision of ideas from many people that we find that third and better solution."

As for the story team, while they are working hard to find the best version of the film's story, they also produce a ton of sketches never intended to be seen onscreen. "The story artists are constantly making jokes about the movie and drawing caricatures of each other," explains Pimentel. "It's not all scientific storytelling. There are so many jokes and caricatures happening that it allows us to feel free and safe to know that we can play in order to get the best story."

Co-director Don Hall finds that sense of play very inspiring. "It's great being around that energy." Producer Osnat Shurer is equally appreciative: "In the story room, everyone is constantly drawing, much more than any other show I've ever worked on. Part of it is an atmosphere that's spread throughout the show."


MR. CLEMENTS
goes to a STORY MEETING!
NOTES

David Pimentel | digital

Paul Briggs | ink, graphite

David Pimentel | ink

Jeremy Spears | digital

SOUTH PACIFIC ADVENTURE # 14
[illegible] bonds with her new friend, the ocean...
LADY SAMOA

John Musker | digital

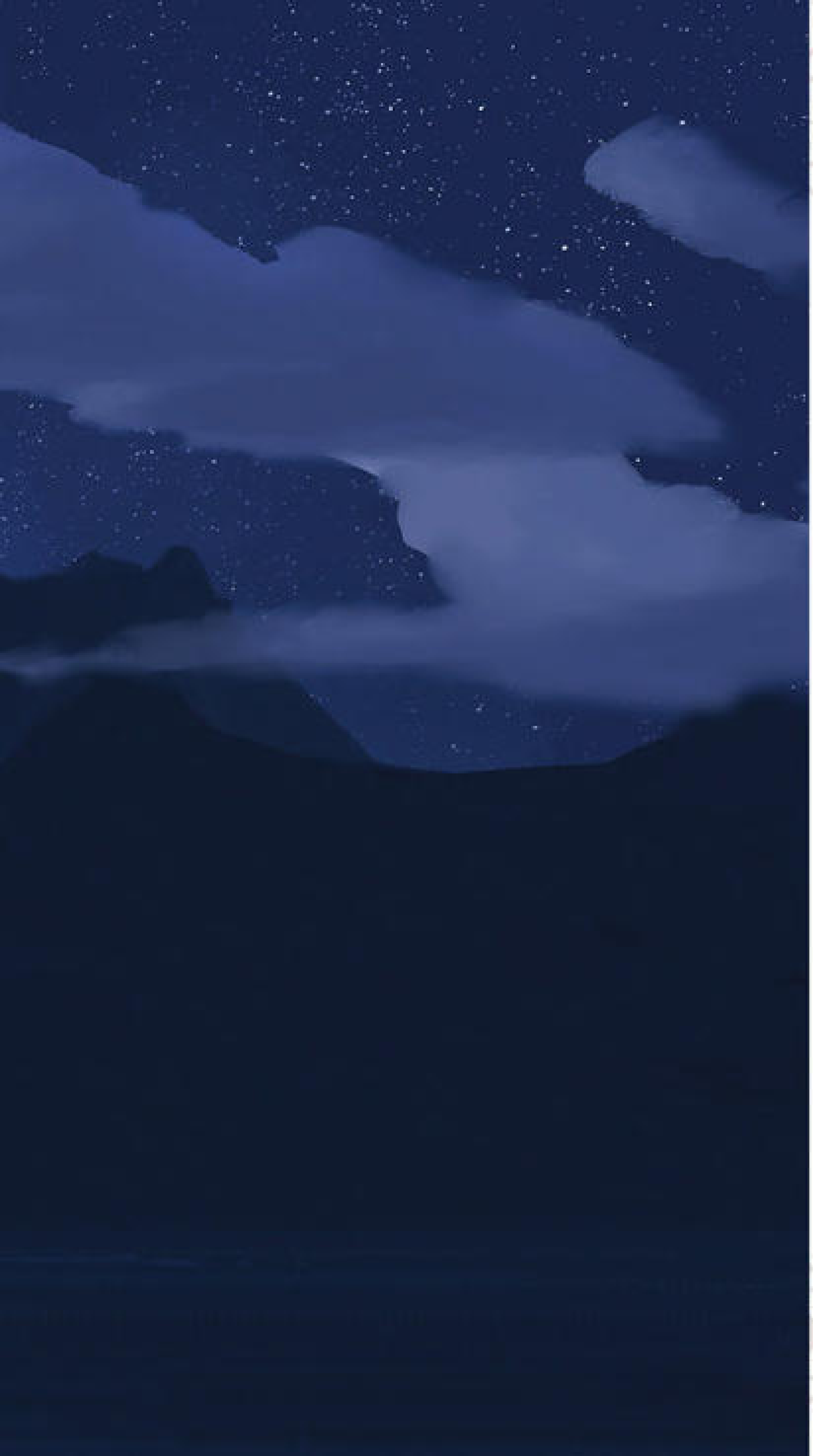
In the story room we joked that the persona of Pua, the loveable pig, is [director] Ron Clements, and the persona of Heihei, the super rooster, is [director] John Musker.
— David Pimentel, head of story

Ryan Green | ink, graphite

Ryan Green | ink

Leighton Hickman | digital

John Musker | digital



James Finch | digital

ACKNOWLEDGMENTS

The authors want to express their sincerest gratitude to Osnat Shurer, Ron Clements, and John Musker for trusting us with the privilege of sharing the story of *Moana*'s visual development from idea to screen.

We are indebted to the individual artists, particularly Ian Gooding, Andy Harkness, Bill Schwab, and your incomparable team, who took the time to talk with us. We learned so much from each of you, and we hope we've done justice to your deeply thoughtful creative process and amazing talents.

Thank you, Renato Lattanzi, Ryan Gilleland, Mayka Mei, Kelly Eisert, Jacob Burnham, Yvett Merino, Elise Aliberti, Halima Hudson, and the entire *Moana* production management team. We would be lost at sea without you. Kaliko Hurley, your thoughtful notes helped make this book better. Thank you to our editor, Beth Weber, and our designer, Glen Nakasako, who pushed us to make this book truly spectacular. And extra thanks to Scott Hummel, transcriptionist extraordinaire.

On a personal note, Jessica would like to thank the incredible people we met in the islands, especially Fiona, Tala, Dionne, Hinano, Frank, Paul, and Peter. She is grateful for your kindness and guidance, and honored to have learned from you. Maggie would like to thank the development department of the Walt Disney Animation Studios, whose support and sense of humor gets her and Jessica through each day, and Max Malone, who was by her side during the writing of this book.

—Jessica Julius and Maggie Malone

Jin Kim | graphite, digital drawover

ABOUT THE AUTHORS

Jessica Julius is senior creative executive at Walt Disney Animation Studios. She was the story production supervisor on the Academy Award®–winning film *Frozen* and worked on the Academy Award®–winning feature *Big Hero 6*, as well as Oscar®-nominated films such as *Wreck-It Ralph*, *Tangled*, *The Princess and the Frog*, and *Bolt*. She is the author of *The Art of Big Hero 6* and *The Art of Zootopia*, as well as several children's books. She lives in Los Angeles with her husband.

Maggie Malone is head of creative affairs at the Walt Disney Animation Studios, where she has worked on the Academy Award®–winning films *Frozen* and *Big Hero 6*, as well as Oscar®-nominated films such as *Wreck-It Ralph*, *Tangled*, *The Princess and the Frog*, and *Bolt*. She is the co-author of *The Art of Wreck-it Ralph*. She holds a BA from Yale University and a Masters of Screenwriting from UCLA.

John Lasseter is a two-time Academy Award®–winning director and chief creative officer of Walt Disney, Disneytoon, and Pixar Animation Studios, and principal creative officer of Walt Disney Imagineering.

Ron Clements, director of *Moana*, started his career at Walt Disney Animation Studios with a two-year apprenticeship under Disney legend Frank Thomas. He quickly progressed through the ranks from in-betweener to animator-storyman and made his writing-directing debut with directing partner John Musker on 1983's *The Great Mouse Detective*. This successful collaboration led Clements and Musker to team up again on the award-winning feature *The Little Mermaid*. Clements and Musker went on to direct animated classics *Aladdin*, *Hercules*, *Treasure Planet*, and *The Princess and the Frog*.

John Musker, director of *Moana*, began at Walt Disney Animation Studios in 1977, animating on *The Fox and the Hound* and doing story work for *The Black Cauldron*. He joined creative forces in 1983 with fellow director Ron Clements to write *The Great Mouse Detective*, which they co-directed with Burny Mattinson and Dave Michener, and went on to direct with Clements *The Little Mermaid*, *Aladdin*, *Hercules*, *Treasure Planet*, and *The Princess and the Frog*.

Bill Schwab | digital

Neysa Bové | digital

In *Moana*, Walt Disney Animation Studios' new big-screen adventure, a spirited teenager, with help from demi-god Maui, sails out on a daring mission to prove herself a master wayfinder. This lushly illustrated book offers a behind-the-scenes view of the elaborate artistry involved in creating the film.

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